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Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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length: 2000000000
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1: /cgn2_6/ptodata/2,

2: /cgn2_6/ptodata/2,

3: /cgn2_6/ptodata/2,

4: /cgn2_6/ptodata/2,

5: /cgn2_6/ptodata/2,

6: /cgn2_6/ptodata/2,
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Maximum Match 100%
Listing first 45 summaries
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/FCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/Packfiles1.pep:*
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US-08-417-174-46
US-08-902-516-29
US-09-036-582-26
US-09-036-582-26
US-09-417-174-121
US-07-891-942G-6
US-08-417-174-27
US-08-417-174-71
US-08-417-174-72
US-08-417-174-73
US-08-417-174-74
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US-08-417-174-78
US-08-417-174-78
US-08-417-174-79
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6, Ag
27, 7
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                                    Appl
Appl
                                                              ; MOLECULE TYPE: peptide US-08-787-547-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
US-08-787-547-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 6
Patent No.
  Matches
              Query Match
Best Local
                                                                                                                                                                                                      FILING DATE: 22-JAN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
                                                                                                                     TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                            COMPUTER: IBM Compa.....
COMPUTER: IBM Compa.....
OPERATING SYSTEM: Windows95
SOFTWARE: PastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/787,547
FILING DATE: 22-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Hedley, Mary Lynne
APPLICANT: Curley, Joanne M.
APPLICANT: Langer, Robert S.
TITLE OF INVENTION: MICROPARTICLES FOR DELIVERY
TITLE OF INVENTION: OF NUCLEIC ACID
NUMBER OF SEQUENCES: 107
                                                                                                                                                          REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-542-5070
TELEPAX: 617-542-8906
                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                       TELLEFAX: 01.
TELLEFAX: 200154
                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Fit
STREET: 225 FI
CITY: Boston
                                                                                                LENGTH:
                                                                                      TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61, Application US/08787547
5. 5783567
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225 Franklin Street
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  Conservative
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88.9%;
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PCT-US96-09848-31

PCT-US96-09848-15

US-08-212-188-4

US-08-212-188-4

US-08-970-725-4

PCT-US95-02708-4

US-08-241-054-85

US-08-241-054-85

US-08-241-054-85

US-08-241-054-91

US-08-390-156A-49

US-08-390-156A-49

US-08-439-817-91

US-08-439-817-91

US-08-439-817-91

US-08-485-508-85

US-08-485-508-91

US-08-044-621D-35

US-08-044-621D-35

US-08-044-621D-35
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Score 53; DB 1; Lo
Pred. No. 1.4e+05;
D; Mismatches 1;
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Result No.

Score

Match

0;

Gaps

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Minimum DB seq Maximum DB seq

Post-processing:

Scoring table:

Sequence

6, Appli 15, Appli 4, Appli 4, Appli 4, Appli 5, Appli 9, Appli 91, Appl 91, Appl

Title: Perfect score:

Run on

Sequence:

Database

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; MOLECULE TYPE:
US-08-417-174-46
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                                                                                                                                                            RESULT
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              Sequence 29, Application US/08902516
Patent No. 5891432
GENERAL INFORMATION:
APPLICANT: SOO HOO, William
TITLE OF INVENTION: MCEMBRAIN-BOUN
TITLE OF INVENTION: RESPONSE USIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 46, Appli
Patent No. 5844075
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Best Local :
                                                                                                                                                                                                                                                                                    Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
 NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A. TITLE OF INVENTION: MELANOMA ANTIGENS A TITLE OF INVENTION: THEIR USE IN DIAGNO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
STRANDEDNESS: Un)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/01 FILING DATE: 05-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (212) 751-6849
                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                           Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                              Unknown
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                                                                                                                                                                                                                                                                                                    91.4%;
88.9%;
MEMBRANE-BOUND CYTOKINE COMPOSITIONS
COMPRISING GM-CSF AND METHODS OF MODULATING AN IMMUNE
RESPONSE USING SAME
50
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
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Pred. No.
                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                    No. 1.4e+05;
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                                                                                                                                                      ; ORGANISM: Human gp100Pmel117 peptide US-09-036-582-26
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
US-09-036-582-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: US-08-902-516-29
                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: van der Bruggen, Pierre
APPLICANT: van der Bruggen, Pierre
APPLICANT: Cornelis, Guy R.
TITLE OF INVENTION: DELLYERY OF PROTEINS INTO EUKARYOTIC CELLS
TITLE OF INVENTION: WITH RECOMBINANT YERSINIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 88.3
                                                                                                                                                                                                    SOFTWARE: Patentin
SEQ ID NO 26
LENGTH: 9
                                                               Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2 Patent No.
                                                                                                                                                                                                                                                    FILE REFERENCE: 11154
CURRENT APPLICATION NUMBER: US/09/036,582A
CURRENT FILING DATE: 1998-03-06
NUMBER OF SEQ ID NOS: 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/902,516
FILING DATE: 29-JUL-1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION UNMBER: 31,815
REFERENCE/DOCKET NUMBER: P-IM 2442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (619)535-8949
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Rel CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPUTER: IBM PC COMPOTENS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 9 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 4370 La
CITY: San Diego
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: CAMPBELL & FLORES, LLP
STREET: 4370 La Jolla Village Drive,
                                 1 KTWGQYWAV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KTWGQYWQV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KTWGQYWAV 9
KTWGQYWQV 9
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5. 5965381
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United States
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                                                                 Conservative
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88.9%;
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                                                                                 Score 53; DB 2;
Pred. No. 1.4e+05;
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Pred. No. 1.
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RESULT 5 US-08-417-174-47

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; TYPE: amino acid
; STRANDEDNESS: Unkn
; TOPOLOGY: Unknown
; MOLECULE TYPE: Pepti
US-08-417-174-47
                                                                                                                                                                                                                              RESULF 6
US-08-417-174-121
: Sequence 121, Application US/08417174
; Patent No. 5844075
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Patent No.
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Best Local
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                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (212) 751-6849
TELEX: 421792
INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION UNAFA:
APPLICATION UNAFA:
US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 20 TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 758-4800
                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                            TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                            APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: KAWAKAMI, APPLICANT: STEVEN A.
                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
CITY: NEW YORK
STATE: NEW YORK
COUNTRY: USA
ZIP: 10154
                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC (
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: NEW YORK
STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity es 8; Conserv
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                                                                                                                                                                                                                                                                                                                               1 KTWGQYWQV 9
                                                                                                                                                                                                                                                                                                                                                              1 KTWGQYWAV 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47, Application US/08417174
5. 5844075
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                                                               345 PARK AVENUE
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345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unknown
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IBM PC COMPATIBLE
                                                                              MORGAN & FINNEGAN, L.L.P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unknown
                                                                                                             THEIR USE IN DIAGNOSTIC AND THERAPEUTIC METHODS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                            91.4%;
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
                                                                                                                                                              MELANOMA ANTIGENS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          37,341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47:
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US-07-891-942G-6
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Best Local (
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APPLICATION NUMBER: 06/915
FILING DATE: 06-0CT-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/362
FILING DATE: 07-JUN-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
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                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                          CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: CDNA TITLE OF INVENTION: A REC NUMBER OF SEQUENCES: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
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FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
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nes 8; Conserv
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                                                                                                                                             APPLICATION NUMBER: US/07/891,942G FILING DATE: 01-JUN-1992
                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                STATE:
                                                                                                                                                                                                                                                                                                                                                 CITY: Ithaca
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                                                                                                                                                                                                                                                                                                                                                                  306 East State Street; Suite 220
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VENTION: CDNA CLONES FOR HUMAN TYROSINASE AND FOR
VENTION: A REGULATORY PROTEIN IN THE MELANIN PROT
                                                                                                                                                                                                                                                                                                              USA
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(212) 751-6849
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88.9%;
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                                       07/362,847
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TELECOMMUNICATION INFORMATION: TELEPHONE: 607-273-1711

607-273-2609

REGISTRATION NUMBER: 34 REFERENCE/DOCKET NUMBER:

34,390

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Query Match
Best Local Similarity
Tracks 8; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                      Sequence 27, Application US/08417174 Patent No. 5844075
CORRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/232-565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: KAWAKA
APPLICANT: STEVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
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                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154 KTWGQYWQV 162
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                                                                                                           OPERATING SYSTEM:
                                                                                                                            COMPUTER:
                                                                                                                                                                         COUNTRY: US
ZIP: 10154
                                                                                                                                                                                                          STATE:
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                                                                                                                                                                                                       NEW YORK
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near the silver coat color locus on mouse
chromosome 10 and is in a syntenic region
chromosome 12
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Copeland, Neal G
Gilbert, Debra J
Jenkins, Nancy
                                                                                                                                                                                       USA
                                                                                                                                                                                                                                     345 PARK AVENUE
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Chintamaneni, Chaya
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                           IBM PC COMPATIBLE
SYSTEM: PC-DOS/MS-DOS
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88.9%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                               AND THERAPEUTIC
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; STRANDEDNESS: Ünknowr
TOPOLOGY: Unknown
; MOLECULE TYPE: Protein
US-08-417-174-27
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Best Local S
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                                                           INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                   CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                       REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: KAWAKAMI, APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154 KTWGQYW 160
                                                                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII
STRANDEDNESS:
TOPOLOGY: Unl
                                                                                                         TELEFAX:
                                                                                                                                                                                                                                   APPLICATION NUMBER: US/0 FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                      CITY: NEW YORK STATE: NEW YORK
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                                                                                                           (212) 751-6849
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               Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43
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                                                                                                                                                                      37,341
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RESULT 11
US-08-417-174-71
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Best Local Similarity
7; Conserve
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 Sequence 71, Application US/08417174
Patent No. 5844075
GENERAL INFORMATION:
APPLICANT: KAMAKAMI, YUTAKA; ROS.
APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 27, Application US/09007961 Patent No. 5994523
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (212) 751-68
TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/231,56
FILING DATE: 22-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: STEVEN A.
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                              154 KTWGQYW 160
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                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: Un)
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
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                                                                                                                                                                                                                                                                                                                               LENGTH:
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NEW YORK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KAWAKAMI, YUTAKA; ROSENBERG
                                                                                                                                                                                                                                                                                       Unknown
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                                                                                                                                                                                                                                                                          Protein
                                                                                                                                                                                                                                                                                                     Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THEIR USE IN DIAGNOSTIC AND THERAPEUTIC METHODS
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                                                                                                                                                                                    86.2%; Score 50;
100.0%; Pred. No.
tive 0; Mismatc
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                YUTAKA; ROSENBERG
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2.1;
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                                                                                                                                                                                                              Length 661;
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US-08-417-174-72
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COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-SOFTWARE: ASCII
                                                                                                     STATE:
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                                                                                   COUNTRY:
                                                                                                                                          ADDRESSEE:
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; STRANDEDNESS:
; TOPOLOGY: Unk.
; MOLECULE TYPE:
US-08-417-174-71
                                                                                                                                                                                                                                                                                Sequence 72, Applic Patent No. 5844075
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INFORMATION FOR SEQ ID NO:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                            APPLICANT: KAWAKAMI, I
APPLICANT: STEVEN A.
TITLE OF INVENTION: MI
TITLE OF INVENTION: MI
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APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
ZIP: 10154
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
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MEDIUM TYPE: FLOPPY DISK
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ADDRESSEE: MORGAN & FINNEGAN, L.L.P
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TITLE OF INVENTION:
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NAME: CAROL M. GRUPPI
                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                         STREET: 345 PARK AVENUE CITY: NEW YORK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unknown
                                                                                                                          MORGAN & FINNEGAN, L.L.P
          FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unknown
                                                                                                                                                                              METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82.8%;
87.5%;
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Pred. No. 1.4e+05;
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PC-DOS/MS-DOS

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STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-08-417-174-72
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Best Local Similarity 8/..
---hes 7; Conservative
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                                                                                                                                                      SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILLING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILLING DATE: 22-APR-1994
CLASSIFICATION: 435
INFORMATION FOR SEQ ID NO:
                                                 ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758.4800
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: FLOPPY DISK
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
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FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: MELANOM THEIR OF INVENTION: THEIR US TITLE OF INVENTION: METHODS
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                                  TELEFAX:
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                                  (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                             USA
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87.5%;
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                                                                                        2026-4124US1
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; TYPE: amino acid
; STRANDEDNESS: Unkno
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptid
US-08-417-174-74
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; TOPOLOGY: Unk
; MOLECULE TYPE:
US-08-417-174-73
Query Match
Best Local Similarity
"hes 7; Conserv
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Best Local Similarity 87.
Matches 7; Conservative
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                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                             REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
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MEDIUM TYPE: FLOPPY DISK
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LENGTH: 9
                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
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STATE: NEW YORK
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                                                                                                                                                                     ENGTH
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5844075
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              Conservative
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                                                                                                                                    Unknown
                           82.8%;
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
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              0; Mismatches
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                            Score 48; DB 2;
Pred. No. 1.4e+05;
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Pred. No. 1.4e+05;
0; Mismatches 1
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              1; Indels
                                         Length 9;
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Db 04

2 TWGQYWQV 9

2 TWGQYWAV 9

0;

CITY: NEW YORK

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; TYPE: amino acid
; STRANDEDNESS: Unkn
; TOPOLOGY: Unknown
; MOLECULE TYPE: Pepti
US-08-417-174-75
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US-08-417-174-68
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Best Local Similarity '
Thehes 7; Conservat
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                                                                                                                                                                 Sequence 68, Appli
Patent No. 5844075
                                                                                                                                                GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
                                                               APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS AND
TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/01
FILING DATE: 2-APR-1994
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
STREET: 345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: STEVEN A.
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (44., mer.ex: 421792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08 FILING DATE: 05-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: NEW YORK
STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
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                                                                                                                                                                                  Application US/08417174
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unknown
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                                                                                                                                                                                                                                                                                                                                                  82.8%;
87.5%;
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                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                  Score 48; DB 2;
Pred. No. 1.4e+05
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GENERAL INFORMATION:
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Best Local :
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                                                                                                                                                                                                                                                                                                                             APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
TITLE OF INVENTION: M
TITLE OF INVENTION: T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY
COMPUTER: IBM PC COM
                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: Unl
TOPOLOGY: Unknown
                                                                                                                                                                                                 COUNTRY: UZIP: 10154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 7; Conserv
               APPLICATION NUMBER: US/08/231,565 FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                    STATE:
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   CLASSIFICATION:
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Y: USA
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APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA: COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA: COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800 CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CTASSIETON ASS OPERATING SYSTEM: PC-D SOFTWARE: ASCII CURRENT APPLICATION DATA: SEQUENCE CHARACTERISTICS: X: (212) 751-6849 421792 Application US/08417174 345 PARK AVENUE KAWAKAMI, YUTAKA; ROSENBERG IBM PC COMPATIBLE MORGAN & FINNEGAN, L.L.P FLOPPY DISK 81.0%; 77.8%; METHODS PC-DOS/MS-DOS MELANOMA ANTIGENS AND THERAPEUTIC THEIR USE IN DIAGNOSTIC AND THERAPEUTIC 126 37,341 68: 2026-4124US1 Score 47; DB 2; Lo Pred. No. 1.4e+05; 0; Mismatches 2; Length 9; Indels 0;

Gaps

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; MOLECULE TYPE: US-08-417-174-70
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Best Local
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                                                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION UMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNETY ACCENT TURNING.
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                                                                                                                  TELEX: 421792
INFORMATION FOR SEQ ID NO:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                   REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS A TITLE OF INVENTION: THEIR USE IN DIAGNO TITLE OF INVENTION: METHODS NUMBER OF SEQUENCES: 126
CORRESPONDENCE ADDRESS:
                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION: NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: Unk
TOPOLOGY: Unknown
                                 TOPOLOGY:
                                               TYPE: amino acid
STRANDEDNESS: Unk
                                                                                                                                                   TELEFAX:
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nes 7; Conserv
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                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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                                                                                                                                                   (212) 758-4800
(212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : (212) 758-4800
(212) 751-6849
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                                    Unknown
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                                                  Unknown
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77.8%;
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RESULT 20
US-08-417-174-77
; Sequence 77, Application US/08417174
; Patent No. 5844075
; GENERAL INFORMATION:
                                                                                                                                                   Query Match
Best Local Similarity
Thes 7; Conserve
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Best Local Similarity
"htches 7; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08)
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08)
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                  TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: 1
TITLE OF INVENTION: 1
TITLE OF INVENTION: 1
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: 1BM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 345
STREET: NEW YORK
CITY: NEW YORK
STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: Unl
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
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                                                                                                                                     1 KTWGQYWAV 9
                                                                                                                                                                                                                                                                                                                     LENGTH:
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345 PARK AVENUE
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: 126
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THERAPEUTIC
                                                                                                                                                                                 75.9%;
77.8%;
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77.8%;
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Pred. No. 1.4e+05;
                                                                                                                                                                                 Score 44; DB 2;
Pred. No. 1.4e+05;
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RESULT 21
US-08-417-174-78
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Best Local Similarity
Thes 7; Conservat
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                                                                                                                                                                                                                                                                              Sequence 78, Applia Patent No. 5844075
                                                                                                                                                                                          GENERAL INFORMATION:

APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,

APPLICANT: STEVEN A.

TITLE OF INVENTION: MELANOMA ANTIGENS AND

TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION UNMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPHONE: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
               COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                  TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: Unl
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OPERATING SYSTEM: PC-DOS/MS-DOS
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STATE: NEW YORK
                                                                                CITY: NEW YORK
STATE: NEW YORK
                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/01 FILING DATE: 05-APR-1995
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                                                             COUNTRY:
                                                                                                                                   ADDRESSEE:
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                                                                                                                 345 PARK AVENUE
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E: Peptide
IBM PC COMPATIBLE
                                                                                                                                  MORGAN & FINNEGAN,
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
METHODS
                                                                                                                                                                                  METHODS
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77.88;
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Pred. No. 1.4e+05,
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                                                                                                                                L.L.P.
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US-08-417-174-79
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GENERAL INFORMATION:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
TELEX: 421792
INFORMATION FOR SEQ ID NO: 78:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                              COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION UNMER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                   APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: ASCII
CURRENT APPLICATION DATA:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                                                                            APPLICATION NUMBER: US/OFFILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                  REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
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nes 6; Conserv
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TOPOLOGY: Un
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                                                                                                                                                                                                                                                                                                                                                                                              CITY: NEW YORK
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NO. 5844075
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                                                                                                                                                                                                                                                                                                                                                                                                              345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                            USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
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Pred. No. 1.4e+05;
0; Mismatches 1
                                                     2026-4124US1
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; TYPE: amino acid
; STRANDEDNESS: Unkno
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptid
US-08-417-17,4-79
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              Query Match
Best Local Similarity
"~+~hes 6; Conserva
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                                                                                              ; TOPOLOGY: UI; MOLECULE TYPE: US-08-417-174-80
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Best Local (
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                     REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: MENUMBER OF SEQUENCES: 1: CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                 LENGTH: 9
TYPE: amino acid
STRANDEDNESS: Unki
                                                                                                                                                                                                  TELEFAX: ("-
TELEFAX: 421792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 3- YORK
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                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: NEW YORK
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 3 WGQYWAV 9
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                                                                                                                                                                                                                      (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KAWAKAMI, YUTAKA; ROSENBERG, STEVEN A.
                                                                                                                          Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MORGAN & FINNEGAN, L.L.P.
                                                                                                                                     Unknown
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85.78;
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                                        74.1%;
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                                                                                                                                                                                                                                                                                                                                                   US/08/231,565
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                                                                                                                                                                                                                                                                  2026-4124US1
                                        Score 43; DB 2;
Pred. No. 1.4e+05;
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Pred. No.
                             Mismatches
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                                                    Length 9;
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                                                                                                                                                                                               RESULT
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                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 6
                                                                                                                      Patent No. 5844075
GENERAL INFORMATION:
                                                                                                                                          Sequence 82, Application US/08417174 Patent No. 5844075
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Patent No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: KAWAKAMI, APPLICANT: STEVEN A. TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION:
APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS AND
TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
TITLE OF INVENTION: METHODS
NUMBER OF SEQUENCES: 126
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: Unl
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: NEW YORK
STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                     Local Similarity 85.7
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                                                                                                                                                                                                                                                                                  3 WGQYWAV 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KAWAKAMI, YUTAKA; ROSENBERG,
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
METHODS
126
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85.7%;
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Pred. No. 1.4e
0; Mismatches
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COUNTRY:

USA

10154

NEW YORK

ADDRESSEE: STREET: 3

345 PARK AVENUE

MORGAN & FINNEGAN, L.L.P.

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Best Local Similarity
Thes 6; Conservat
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                                                                                                                                                                                                                                                                                                                                                                                                US-08-482-282B-6
                                                                                                                                                                                                                                                                                                                                                         Sequence 6, Appr-
5792624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (212) 751-684
TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
           MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Windows 95
SOFTWARE: WordPerfect for Windows, Version 7.1
CURRENT APPLICATION DATA:
                                                                       COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: ASCII
CURRENT APPLICATION DATA:
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MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                     ADDRESSEE: Carol Talkington Verser, Ph.D. ADDRESSEE: Heska Corporation STREET: 1825 Sharp Point Drive CITY: Fort Collins STATE: Colorado
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: Unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 2 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/0 FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 05-AP
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                                                                                                                                                                                                                                                                                                                                   Cynthia A.
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US/08/482,282B
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Pred. No. 1.4e+05
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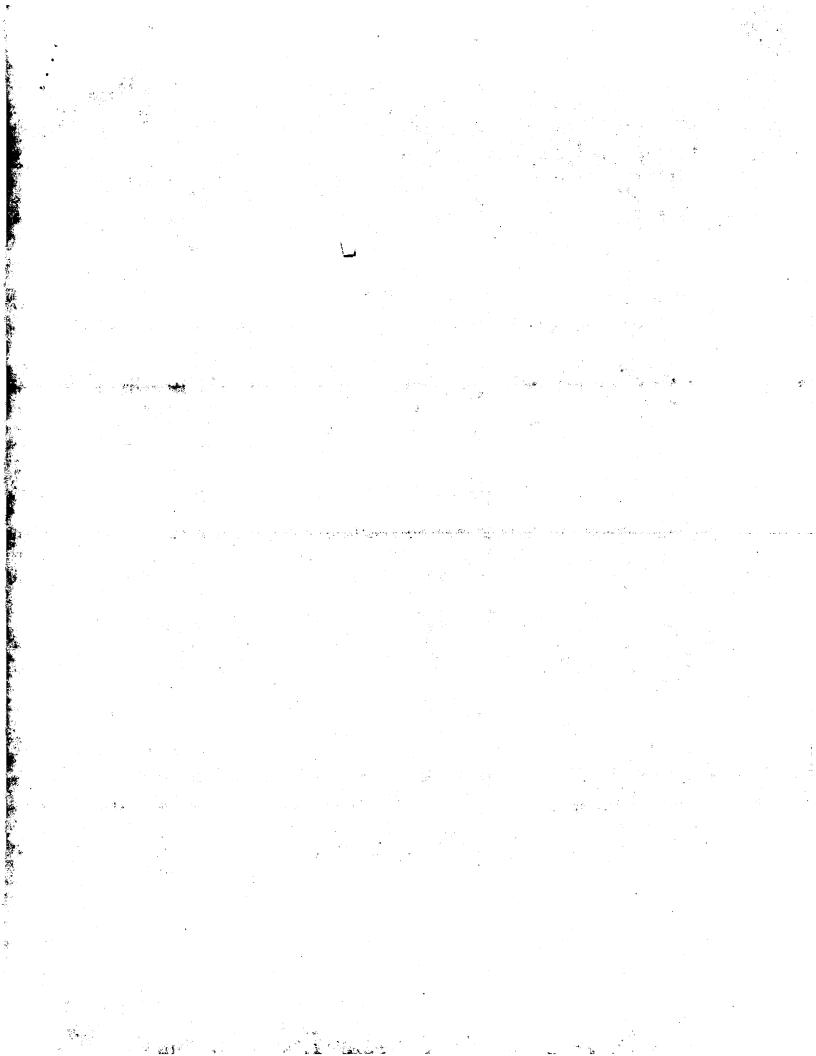
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; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-486-036A-6
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INFORMATION FOR SEQ ID NO:
                                                                                                TELEFAX: (303) 863-02 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Grieve, R
APPLICANT: Frank, G1
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 72 amino acids
                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION: NAME: Connell, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: protein
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LENGTH: 72 amino acids
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CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/486,036A FILING DATE: June 7, 1995 CLASSIFICATION: 435
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                                                                                                                                                                              NAME: Connell, Gary REGISTRATION NUMBER:
                                                                                                                                                                  REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                       STATE:
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                                                                                                                               TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                   r: 1700 Lincoln Street, Suite 3500 Denver
                                                amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wisnewski, Nancy
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                                                                                                                                   (303)
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                                                                                                              863-0223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cynthia A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        493-7272
                                                                                                                                 863-9700
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55.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOVEL FILARIID NEMATODE CYSTEINE PROTEASE PROTEINS,
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Pred. No. 7
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Best Local Similarity
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PCT-US96-09848-6
                                                                                                                                                                                           RESULT
                                                                                                                                                                           PCT-US96-09848-31
                                                                                                                                       Sequence 31, Application PC/TUS9609848 GENERAL INFORMATION:
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Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (303) 863-9700
TELEFAX: (303) 863-0223
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
CLASSIFICATION:
PRIOR APPLICATION NUMBER: US 08
FILING DATE: 07-JUN-1995
                                   CORRESPONDENCE ADDRESS:
                                                                   APPLICANT: Tripp, Cynthia A.
APPLICANT: Wisnewski, Nancy
TITLE OF INVENTION: NOVEL FILARTYD NEMATODE CYSTEINE
TITLE OF INVENTION: PROTEASE PROTEINS, NUCLEIC ACID |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 72 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 32,020
REFERENCE/DOCKET NUMBER: 26
TELECOMMUNICATION INFORMATION:
TELEPHONE: (303) 863-9700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 07-JUN-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
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ADDRESSEE: Sheridan Ross & McIntosh
                                                       NUMBER OF SEQUENCES:
 STREET:
                                                                                                                                                                                                                                               30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Denver
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                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Colorado
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Sheridan Ross & McIntosh
)O Lincoln Street, Suite 3500
                                                                                                                                                                                                                                                                                                                               69.0%;
55.6%;
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NOVEL FILARIID NEMATODE CYSTEINE
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Pred. No.
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                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                              Length 72;
                                                                       ACID MOLECULES AND USES THEREOF
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Query Match
Best Local Similarity
Watches 5; Conserv:
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FILING DATE: 07-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: CONNEI1, Gary J.
REGISTRATION NUMBER: 32,020
REFERENCE/DOCKET NUMBER: 2618
TELECOMMUNICATION: TOCHMATION:
TELEPHONE: (303) 863-9700
TELEFAX: (303) 863-9700
TELEFAX: (303) 863-0223
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 401 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15, Application:
                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 01
FILING DATE: 07-JUN-1995
                               FILING DATE: 07-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Connell, Gary J.
                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: PC
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                        CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359 KTYGEYWII 367
                                                                                                                                                                                                                                                                                                                     CITY: Denver
STATE: Colorado
COUNTRY: U.S.A.
                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                  APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
TOPOLOGY: linear
             NAME: Connell, Gary J. REGISTRATION NUMBER: 3
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NUMBER:
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55.6%;
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2618-33-PCT
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Pred. No.
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Maximum Match 100%
Listing first 45 summaries
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3: sp_fungi:*
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58
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Copyright (c) 1993 - 2000
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sp_bacteria:*
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O9repl zymomonas m
O01737 caenorhabdi
O9dwy8 human papil
O9ew89 streptomyce
Q59962 streptomyce
Q9rxg5 deinococcus
P70874 bacillus ce
O55126 mus musculu
O43801 homo sapien
O75323 homo sapien
O9pu58 brachydanio
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Q9kpy3 vibrio chol
Q45818 chloroflexu
P74474 synechocyst
O02622 crassostrea
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Q9UVZ4
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Best Local Similarity
Matches 5; Conserv
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01-MAY-2000
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                                       Q9UVZ4
                                                                                                                                                                                                                                                                                         Wolinella succinogenes.
Bacteria; Proteobacteria;
Wolinella.
                                                                                                                                                                                                                                                                                NCBI_TaxID=844;
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                                       PRELIMINARY;
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062270	007068	087798	Q9VNK6	Q9RMH9	Q9F4V6	P97024	Q45279	Q9U2E7	Q9FL76	P73834	Q9DWY4	Q9PNS7	Q9ZTX4	004585	Q9SDN4	Q9ZPS2	050200	Q9DD36	Q9DFC5	Q9DFC6	Q9W6I7	Q9PW55	Q9W6I6	Q9RMM4	008346
062270 caenorhabdi	007068 burkholderi	087798 pseudomonas	Q9vnk6 drosophila	Q9rmh9 streptomyce	Q9f4v6 brevibacter	P97024 brevibacter	Q45279 brevibacter	Q9u2e7 caenorhabdi	Q9f176 arabidopsis	ຜ	Q9dwy4 human papil	a	Q9ztx4 lycopersico		Q9sdn4 prunus dulc	Q9zps2 arabidopsis	O50200 thermococcu	xenopus	xenopus	Q9dfc6 xenopus lae	Q9w617 brachydanio	Q9pw55 brachydanio	Q9w6i6 brachydanio	Q9rmm4 streptomyce	008346 streptomyce

## ALIGNMENTS

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Q9UVZ4;
01-MAY-2000
01-MAY-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

SIGNOT, Gross R., Einsle O., Kroneck P.M.H., Kroeger A., Klimmek Simon J., Gross R., Einsle O., Kroneck P.M.H., Kroeger A., Klimmek "A NapC/NirT-type cytochrome c (NrfH) is the mediator between the quinone pool and the cytochrome c nitrite reductase of Wollinella succinogenes.";

Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AJ24540; CAB53161.1; -.

InterPro; IPR001064; -.

PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1.

SEQUENCE 902 AA; 102016 MW; D2621BF042288380 CRC64;
 (TrEMBLrel.) (TrEMBLrel.)
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Pred. No. 74;
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Smythe M.L., Mc
"Proteolytic de
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NON_TER
SEQUENCE
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                           01-JAN-1998 (TrEMBLrel.
01-JAN-1998 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "PCR-based characterization Submitted (AUG-1999) to the EMBL; AJ249160; CAB53513.1; HSSP; P09850; IXNB.
                           PROSITE; PS00139; THIOL_PROTEASE_CYS; PROSITE; PS00639; THIOL_PROTEASE_HIS; Hydrolase; Signal; Thiol protease.
                                                                                                    Submitted (NOV-1996) to the EMBL; U77932; AAC32040.1; -. HSSP; P00787; 1THE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaeumannomyces graminis.
Eukaryota; Fungi; Ascomy
Sordariomycetes incertae
                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                          MEDLINE-97442731; PubMed-9297696;
                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                            Schistosoma
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                                                                     Pfam; PF00112; Peptidase_C1;
                                                                                                                                  Brindley P.J.
                                                                                                                                           Hola-Jamriska L., Dalton
                                                                                                                                                       STRAIN-CHINESE;
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KTFNQYWAI 88
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S; PR00911; GLHYDRLASE11.
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12791 MW;
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POTENTIAL.
CATHEPSIN C.
ADA9765666C4142C CRC64;
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Schistosomatidae;
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Query Match

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           SEQUENCE FROM N.A.

STRAIN-EL TOR NI6961 / SEROTYPE 01;
STRAIN-EL TOR NI6961 / SEROTYPE 01;
STRAIN-EL TOR NI6961 / SEROTYPE 01;
MEDLINE-20406833; PubMed=10952301;
Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.
Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Umayam L.A.,
Soloson R.J., Nelson K.E., Read T.D., Tettelin H., Richardson D.,
Gill S.R., Nelson K.E., Read T.D., Tettelin H., Dragoi I., Selle:
Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Selle:
THATBACK T., Fleishmann R.D., Nierman W.C., White
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Q9KPY3;
01-OCT-2000
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Q9Y9N5;
01-NOV-1999
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"Complete genome sequence of an aerobic hyper-thermophilic crenarchaeon, Aeropyrum pernix Kl.";
DNA Res. 6:83-101(1999).
EMBL; AP000064; BAA81265.1; -
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425 SWGQYW 430
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Bacteria; Protec
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01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
276AA LONG HYPOTHETICAL LACTOSE TRANSPORT SYSTEM PERMEASE PROTEIN.
                                                                                                                                            NCBI_TaxID=666;
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045818;
01-NOV-1996
01-NOV-1996
01-MAR-2001
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EMBL; AE004294; AAF95373.1;
TIGR; VC2229; -
SEQUENCE 281 AA; 31824 M
                                                                                                                                                                                                                                                                                                                                                                         Chloroflexus aurantiacus.
Bacteria; Green non-sulfur bacteria;
Chloroflexaceae; Chloroflexus.
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                                                                            Hypothetical protein. SEQUENCE 305 AA; 33674
                                                                                                                      MEDLINE=20433268; PubMed=10976061;
Xiong J., Fischer W.M., Inoue K., I
*Molecular evidence for the early of
Science 289:1724-1730(2000).
EMBL; Z34000; CAA83969.1; -.
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Niedermeier G.
                                                                                                                                                                                     FEBS Lett.
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Niedermeier G., Shiozawa J.A., Lottspeich
"The primary structure of two chlorosome p
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Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumura
Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M.,
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SEQUENCE
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TISSUE-DIGESTIVE GLAND;
Daniel J.Y., Le
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01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-JUL-1997 (TREMBLREL. 15, Last annotation update)
ALPHA-AMYLASE PRECURSOR (EC 3.2.1.1) (1,4-ALPHA-D-GLUCAN
GLUCANOHYDROLASE) (GLYCOGENASE) (FRAGMENT).
                                                                                                        Signal; NON_TER
                                                                                                                                                                                                                                                                             LINKAGES IN OLIGOSACCHARIDES EMBL; Y08370; CAA69658.1; -. HSSP; P00690; 1JFH.
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-!- CATALYTIC ACTIVITY: ENDOHYDROLYSIS OF 1,4-ALPHA-GLUCOSIDIC LINKAGES IN OLIGOSACCHARIDES AND POLYASACCHARIDES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Crassostrea gigas (Pacific oyster).
Eukaryota; Metazoa; Mollusca; Bivalvia; Pteriomorphia; Ostreoida;
Ostreoidea; Ostreidae; Crassostrea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions."; DNA Res. 3:109-115(1995).
EMBL; D90915; BAA18575.1; -.
EMBC; D90915; BAA18575.1; -.
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01-FEB-1997 (TrEMBLrel. 02, Last sequence up
01-CCT-2000 (TrEMBLrel. 15, Last annotation
D-ALANYL-D-ALANINE CARBOXYPEPTIDASE.
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     STRAIN-BRISTOL N2;
Waterston R.;
Submitted (JUN-199
                                                                                                                           Wilson R., Woessner J., Grav
"The sequence of C. elegans
Submitted (MAY-1997) to the
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STRAIN=BRISTOL N2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhabditidae; Peloderinae; NCBI_TaxID=6239;
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"Sequence analysis of 42B3 fosmid clone of 2ymomonas mot Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases EMBL; AF213822; AAF23804.1;
                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                     Science
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Eukaryota; Metazoa; Nem
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Q9DWY8;
Q1-MAR-2001 (TrEMBLrel. 16
Q1-MAR-2001 (TrEMBLrel. 16
Q1-MAR-2001 (TrEMBLrel. 16
MAJOR CAPSID PROTEIN L1 ()
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01-MAR-2001 (TrEMBLrel. 16,
01-MAR-2001 (TrEMBLrel. 16,
01-MAR-2001 (TrEMBLrel. 16,
BETA-XYLANASE (EC 3.2.1.8) (
Zhang H., Yao B., Wang Y.; "Cloning and expression of the 23kD beta-xylanase streptomyces olivaceoviridis E-86."; Submitted (DEC-2000) to the EMBL/GenBank/DDBJ data EMBL; AJ292317; CAC19491.1; -. Xylan degradation; Hydrolase; Glycosidase.
                                                                                                                                                                                                                                                         Bin
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                                                                                                                                                                                                                                                                                                                                                                                                                                Streptomyces olivaceoviridis (Streptomyces
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Submitted (OCT-2000) to the
EMBL; AY009882; AAG27044.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus.
Viruses; dsDNA viruses,
Papillomavirus.
NCBI_TaxID=10566;
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|||:||
572 WGQFWA 577
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                                                                                                                                                     SEQUENCE FRO
STRAIN-E-86;
                                                                                                                                                                                                                               Submitted
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                                                                                                                                                                                                                                                                                                       SEQUENCE
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42 WGEYWDV 48
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Pred. No. 17;
1; Mismatches
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Pred. No. 2.5e
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2.5e+02;
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HSSP; P09850; IA...

InterPro; IPR001137; -.

R Pfam; PF00457; Glyco_hydro_11; 1.

R PRINTS; PR00911; GLHYDRLASE11.

PROSITE; PS00776; GLYCOSYL_HYDROL_F11_1; 1.

DR PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

DR PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

DR PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

PROSITE; P
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Best Local
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Q9RXG5;
01-MAY-2000 (TrEMBLrel. 13, Cr
01-MAY-2000 (TrEMBLrel. 13, La
01-MAR-2001 (TrEMBLrel. 16, La
CYTOCHROME C-TYPE BIOGENESIS P
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Q59962;
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-!- CATALYTIC ACTIVITY: ENDOHYDROLYSIS OF 1,4-BETA-D-XYLOSIDIC LINKAGES IN XYLANS.
EMBL; X98518; CAA67143.1; -.
HSSP; P09850; IXNB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Firmicutes;
Actinomycetales; Strep
NCBI_TaxID-1931;
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
ENDO-1,4-BETA-XYLANASE (EC 3.2.1.8) (1,4-BETA-D-XYLAN
  MEDLINE-20036896;
White O., Eisen J.
Dodson R.J., Haft
                                                                                                                    Bacteria; Thermus/Deinococcus NCBI_TaxID=1299;
                                                                               SEQUENCE FROM N.A.
                                                                                                                                                            Deinococcus radiodurans
                                                                                                                                                                                  DR0348
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PubMed=10567266;
.A., Heidelberg J.I.D.H., Gwinn M.L.,
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66.7%;
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Last annotation update)
S PROTEIN, HEME EXPORTER
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                      J.F.,
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    Nelson
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  Hickey E.K.,
lson W.C., Ri
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    D.L.,
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                                                                                                                                                                                          spores: cloning and sequencing of the gene and molecular characterization of the enzyme.";
J. Bacteriol. 178:5330-5332(1996).
-I- FUNCTION: PROBABLE N-ACETYLMURAMYL-L-ALANINE AMIDASE. DECOATED SPORES DERIVED FROM VARIOUS ORGANISMS. PRESENT SPORES IN ITS ACTIVE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  radiodurans R1.";
Science 286:1571-1577(1999).
EMBL; AE001895; AAF09930.1;
TIGR; DR0348;
                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-FEB-1997 (TrEMBLrel. 16, Last annotation update)
SPORE CORTEX-LYTIC ENZYME PREPERTIDE PRECURSOR (GER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003557; -.
Pfam; PF01578; CytC_asm; 1.
PRINTS; PR01386; CCMCBIOGNSIS.
SEQUENCE 236 AA; 26591 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M., Vamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R. Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C.,
                                                                                                                                                                      -!- SUBCELLULAR LOCATION: EMBL; D63645; BAA09800.1;
                                                                                                                                                                                                                                      STRAIN=IFO 1359/;
MEDLINE=96359394; PubMed=8752358;
MORIYAMA R., Kudoh S., Miyata S., Nonobe S., Hattori A., Makino
"A germination-specific spore cortex-lytic enzyme from Bacillus
"A germination-specific spore cortex-lytic enzyme from Bacillus
                                                                                                                               SIGNAL
                                                                                                                                        Hydrolase;
                                                                                                                                                    Pfam;
                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                          Bacillus/Staphylococcus
NCBI_TaxID=1396;
                                                                                                                                                                                                                                                                                                                                                Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                           Bacillus
                                                                                                                                                                                                                                                                                                                                                                     SLEB
                                                                                                                                                                                                                                                                                                                                                                              AMIDASE)
                                                                                                                                                                                                                                                                                                                                                                                                                                   P70874;
                                                                                                                                                                                                                                                                                                                                                                                                                                             P70874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Genome sequence of the radioresistant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fraser C.M.;
                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR002541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TWGTYW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TWGQYW 7
                                                                                                                                                  Pro; IPR002477; -.
PF01471; PG_binding_1;
 Similarity
5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 5; Conser
                                                                                                                                                                                                                                                                                                                                                          cereus.
                                                                                                                                                                                                                                                                                                                                                                                 (SCLE).
                                                                                                                                         Cell wall;
                                                   33
65
65
88
154
259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  106
                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                      AA;
                                                      223
28257
                                                                          259
259
100
96
72
96
                                                                                                                                                                                                                                                                                                      AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67.2%;
83.3%;
          67.2%;
                                                                                                                                                                                                                                                                                                                                      Bacillus/Clostridium us group; Bacillus.
                                                                                                                                        Signal;
                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                     group;
                                                      W.
                                                                                                                                                                                  SPORE-BOUND
Score 39; DB Pred. No. 62; 1; Mismatches
                                                                                                                            1.
1: Repeat.
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                                                                                      SPORE-CORTEX-LYTIC E MOTIF A.

2 X 8 AA APPROXIMATE
1.
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Pred.
                                                    MOTIF B.
36F266D32EDA544E
                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                      Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No.
                                                                                                                                                                                                                                                                                                     33-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                               259
       DB
62;
                                                                                              APPROXIMATE REPEATS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bacterium
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57;
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                     2;
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                                                                                                                                                                                                                                                                                                                                               group
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                    Length 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                   ENZYME
                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Deinococcus
                                                                                                                                                                                                                                                                                                      83-94
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                                                                                                                                                                                                        DORMANT
                                                                                                                                                                                                                                                            S.;
cereus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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70

WGTYWAL

76

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RESULT
O55126
ID O500
AC O500
DT O500

RESULT
075323
ID 07
AC 07
DT 01
DT 01
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Best Local S
Matches 5
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Best Local
Matches
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Seroussi E., Pan H.Q., Kedra I
Submitted (AUG-1997) to the EN
EMBL; AJ001261; CAA04635.1; -
MGD; MGI:1278343; Gbas.
SEQUENCE 281 AA; 32932 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O43801;
O1-JUN-1998 (TremBLrel. C
O1-JUN-1998 (TremBLrel. C
O1-MAY-2000 (TremBLrel. 1
NIPSNAP2 PROTEIN.
075323;
075323;
01-NOV-1998
01-NOV-1998
                                                                                                                                                                                                                                                                                               Seroussi E., Pan H.Q., Kedra D., Roe B., Dumansk Submitted (AUG-1997) to the EMBL/GenBank/DDBJ da EMBL; AJ001259; CAA04633.1; -.
Interpro; IPR001066; -.
PROSITE: PS00216; SUGAR_TRANSPORT_1; UNKNOWN_1.
SEQUENCE 285 AA; 33769 MW; B83CD282EA759D2D
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055126;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-1998 (TrEMBLrel.
01-JUN-1998 (TrEMBLrel.
01-NOV-1999 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIPSNAP2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-1998 (TrembLrel. 06, Last sequence update)
01-NOV-1999 (TrembLrel. 12, Last annotation update)
4-NITROPHENYLPHOSPHATASE DOMAIN AND NON-NEURONAL SNAP25-LIKE PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
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                                                                                                                                         WGNYWA
                                                                                                                                                                                                           Similarity
5; Conserv
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(TrEMBLrel.
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                                                   PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Primates;
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                                                                                                                                                                                                                           67.2%;
83.3%;
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83
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,80
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13,
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06,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 39; DB; Pred No. 68; 0; Mismatches
Created)
Last sequence update)
                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D., Roe B., Dumanski J.P.;
EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                               Pred.
                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                             39;
                                                   286
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68;
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                                                                                                                                                                                                                                             Length 285;
                                                                                                                                                                                                                                                                                                  CRC64;
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                                                                                                                                                                                                            Indels
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 В
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RESULT
008346
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Q9PU58
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Best Local S
Matches 5
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                     "Cloning of NIPSNAP smelanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9PU58;
01-MAY-2000
01-MAY-2000
01-MAR-2001
                   008346 PRELIMINARY; PRT; 335 AA.
008346;
01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
XYLANASE PRECURSOR (EC 3.2.1.8) (ENDO-1,4-BETA-XYLANASE) (1,4-BETA-D-
                                                                                                                                                                                                                                                                       NON_TER
SEQUENCE
XYLAN XYLANOHYDROLASE)
STXII
                                                                                                                                                                                                                                                                                                                                                                                                                             Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Actinopterygii; Meopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wang X.Y., Smith D.I., Liu W., James C.D.; GBAS, a novel gene encoding a protein with sites and a transmembrane domain, is co-ampl Genomics 49:448-451(1998).

EMBL; AF029786; AAC29002.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalla; Eutherla; Primates;
MCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1998
GBAS.
                                                                                                                                                                                                                                                                                                            Submitted (SEP-1999) to the EMBL; AJ249797; CAB56702.1; InterPro; IPR001781; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9PU58
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MEDLINE=98277458; PubMed=9615231;
Wang X.Y., Smith D.I., Liu W., Ja
                                                                                                                                                                                                                                                                                      InterPro; lProve...
proDom; PD000094; -;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIPSNAP2
                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                     204 WGNYWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202 WGNYWA 207
                                                                                                                                                                            3 WGQYWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19
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                                                                                                              20
                                                                                                                                                                                                      Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000 (TrEMBLrel. 13, C
2000 (TrEMBLrel. 13, L
2001 (TrEMBLrel. 16, L
2 PROTEIN (FRAGMENT).
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5; Conserv
                                                                                                                                                                                                                                                                     288 AA;
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                                                                                                                                                                               8
                                                                                                                                                     209
                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                            J.P.;
                                                                                                                                                                                                                                                                                                                                                               gene
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83
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83.3%;
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                                                                                                                                                                                                                                                                       WW;
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Last annotation update)
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                                                                                                                                                                                                        0;
                                                                                                                                                                                                        Score 39; DB Pred. No. 69; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
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Pred.
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Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7ED85297E4DC9D08
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No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in with tyrosine phosphorylation
co-amplified with EGFR.";
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                                                                                                                                                                                                                  DB
69;
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69;
                                                                                                                                                                                                                                                                                                                                                                 Danio
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                                                                                                                                                                                                                                                                                                                                       databases
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                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
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                                                                                A Shin J.-H., Choi J.-H., Lee O.-S., Joo G.-J., Rhee I.-K.;

"Streptomyces thermocyaneovlolaceus xynB (xylanase B).";

Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.

R EMBL; AF194025; AAF04601.1; -.

R HSSP; P09850; 1XNB.

InterPro; IPR001137; -.

R Pfam; PF00457; Glyco_hydro_11; 1.

R PROSITE; PS00777; GLYCOSYL_HYDROL_F11_1; 1.

R PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

R PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

Signal; Xylan degradation; Hydrolase; Glycosidase.

T SIGNAL 1

40

POTENTIAL.
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Best I
           Query Match
Best Local
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Q9RMM4;
01-MAY-2000 (TrEMBLrel. 1:
01-MAY-2001 (TrEMBLrel. 1:
01-MAR-2001 (TrEMBLrel. 1:
XYLANASE B PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                   Streptomyces thermocyaneoviolaceus.
Bacteria; Firmicutes; Actinobacteri
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                                                                                                                                                                                                                                                                                                               XYNB.
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PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.
Signal; Xylan degradation; Hydrolase; Glycosidase.
SIGNAL 1 29 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning and sequence analysis of genes encoding xylanases and xylan esterase from Streptomyces thermoviolaceus OPC-520."; xylan esterase from Streptomyces thermoviolaceus OPC-520."; Appl. Environ. Microbiol. 63:661-664(1997).

-i- CATALYTIC ACTIVITY: ENDOHYDROLYSIS OF 1,4-BETA-D-XYLOSIDIC
                                                           SEQUENCE
                                                                                                                                                                                                                 STRAIN=KCCM 40049;
Shin J.-H., Choi J.-H.,
                                                                                                                                                                                                                                                                Actinomycetales; S
NCBI_TaxID=106355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001137; -.
Pfam; PF00457; Glyco_hydro_11;
PRINTS; PR00911; GLHYDRLASE11.
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NCBI_TaxID=1952;
[1]
                                                                        CHAIN
                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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Tsujibo H., Ohtsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Streptomyces thermoviolaceus.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
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h 67.3
Similarity 66.3
6; Conservative
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ki T., Iio T., Yamazaki I.,
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35280 MW;
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35328
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66
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Score 39; DB Pred No. 81; 2; Mismatches
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                                                                       XYLANASE B
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                                                          D7DED7BAFCB52710 CRC64;
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Streptomycetaceae; Streptomyces.
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                                                                                                Brachydanio rerio (Zebrafish) (Zebra da
Eukaryota; Metazoa; Chordata; Craniata,
Actinopterygii; Neopterygii; Teleostei,
Cypriniformes; Cyprinidae; Rasborinae;
CyBI_TaxID=7955;
                                                                                                                                                                                   Q9PW55
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pfam; PF00688; TGFb_propeptide;
Procom; PP000357; -; 1.
PROSITE; P800250; TGF_BETA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
Actinopterygii, Neopterygii; 7
Cypriniformes; Cyprinidae; Ras
              01-MAY-2000 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. Bisgrove B.W., Essne "Regulation of axis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1999 (TrEMBLrel. 1:
01-NOV-1999 (TrEMBLrel. 1:
01-MAR-2001 (TrEMBLrel. 1:
SIGNALING MOLECULE LEFTY1
                                                                        SEQUENCE FROM N.A.
MEDLINE-99065494;
                                                                                                                                                                                                                                                                                                       Glycoprotein.
SEQUENCE 35
                                                                                                                                                                                                                                                                                                                                                                                                        signaling in the midline.";
Submitted (MAR-1999) to the
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       InterPro;
                                                                Thisse C.,
                                                                                                                                            ANTIVIN.
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EMBL; AF132444; AAD34388.1;
HSSP; P01137; 1KLA.
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InterPro;
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5; Conser
       IPR001111;
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Last sequence update)
Last annotation updat
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MING GROWTH FACTOR
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Craniata;
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86;
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                                FACTOR
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                                                        TGFbeta superfamily,
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RESULT
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Matches 5
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Best Local :
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                                    01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
16F-BETA FAMILY MEMBER LEFTY-A.
Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
                                                                                                                                                     Q9DFC6;
Q9DFC6;
01-MAR-2001
01-MAR-2001
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.

Bisgrove B.W., Essner J.J., Yost H.J.;

Bisgrove B.W., Essner J.J., Yost H.J.;

"Regulation of axis development by antagonism signaling in the midline.";

Submitted (MAR-1999) to the EMBL/GenBank/DDBJ-I-SIMILARITY: TO TRANSFORMING GROWTH FACTOR EMBL, AF132445; AAD34389.1; -.

HSSP; P08112; 27GI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00019; TGF-beta; 1.
Pfam; PF00688; TGFb_propeptide;
PROSITE; PS00250; TGF_BETA; 1.
SMART; SM00204; TGFB; 1.
Glycoprotein.
SEQUENCE 358 AA; 41041 MW;
NCBI_TaxID=8355; [1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00204; TGFB;
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Bukaryota; Metazoa; Chordata; Cranitata; Vertebrata; l
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
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PF00688; TGFb_propeptide;
PE; PS00250; TGF_BETA; 1.
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5; Conserv
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IPR001111; -.
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62.5%;
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62
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Last annotation update)
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MEDLINE-20341055; PubMed-10882517;

Branford W.W., Essner J.J., Yost H.J.;

Branford W.W., Essner J.J., Yost H.J.;

"Regulation of gut and heart left-right as
interactions between Xenopus lefty and BMP
Dev. Biol. 223:291-306(2000).

EMBL; AF383563; AAG31035.1; -

SEQUENCE 367 AA; 41604 MW; DBA7E85752B
                                                                                                                                                                                                                                                                                                                                             Q9DD36;
Q9DD36;
01-MAR-2001
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01-MAR-2001
SEQUENCE FROM N.A.
PubMed=11091069;
Tanegashima K., Yokota C., Takahashi S., Asashima M.;
Tanegashima K. of the continuous lefty/antivin-related involved in the regulation of activin signaling during mesoderm induction.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDITINE-20341055; PubMed-10882517; Branford W.W., Essner J.J., Yost H.J.; "Regulation of gut and heart left-right interactions between Xenopus lefty and B Dev. Biol. 223:291-306(2000).
EMBL; AF283562; AA610034 l; -
SEQUENCE 366 AA; 41434 MW; E65CEC306
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                                                                                                                                                                                           Eukaryota; Metazoa; (
Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Ven
Amphibia; Batrachia; Anura; Mesobatrachia;
                                                                                                                                                                                                                                                               XANTIVIN.
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NCBI_TaxID=8355;
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01-MAR-2001
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FACTOR XATV).
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Cheng A.M.S., Thisse-
"The lefty-related factor xatv act
signaling in mesoderm induction ar
bevelopment 0:0-0(2000).
R EMBL; AB038010; BABL3725.1; -
REMBL; AF209744; AAG35771.1; -
REMBL; AF209744; AAG35771.1; -
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AMYLASE (EC
                      Eukaryota; Viridiplantae; Embryophyta; Trachev
Magnoliophyta; eudicotyledons; core eudicots;
Brassicales; Brassicaceae; Arabidopsis.
NCBI_TaxID=3702;
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O9ZPS2;
O1-MAY-1999 (TrEMBLrel. 10, Created)
O1-MAY-1999 (TrEMBLrel. 10, Last sequence update)
O1-OCT-2000 (TrEMBLrel. 15, Last annotation update)
PUTATIVE OLIGOPEPTIDE TRANSPORT PROTEIN.
F14H20 9.
Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Jones R.A., Patel B., Beacham I.R.;
Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: ENDOMYDROLYSIS OF 1,4-ALPHA-GLUCOSIDIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00128; alpha-amylase;
Hydrolase; Glycosidase.
SEQUENCE 469 AA; 52756 MW;
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Archaea; Euryarchaeota;
NCBI_TaxID=65421;
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5; Conservative
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as a feedback inhibitor of nodal
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Tampalans A., Pages M., Messeguer R.;

"Identification of differentially expressed genes during dehydration in almond (Prunus amygdalus) using the CDNA-AFLP technique.";

submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF213936; AAF20002.1; -.

InterPro; IPR000109; -.

Pfam; PF00854; PTR2; 1.

PROSITE; PS01022; PTR2-1; 1.

PROSITE; PS01023; PTR2-2; 1.

PROSITE; PS01023; PTR2-2; 1.

SEQUENCE 559 AA; 61804 MW; AAB9D08BD085C9A3 CRC64;
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"Arabidopsis thaliana chromosome II BAC F14H20 genomic sequence Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AC006532; AAD20094.1; -.

InterPro; IPR000109; -.

Pfam; PF00854; PTR2; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Prunus dulcis (Almond) (Prunus amygdalus).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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PROSITE; PS01023; PTR2_2; UNKNOWN_1.

SEQUENCE 545 AA; 60879 MW; E69740E3A53FEA5F CRC64;
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Lin X., Kaul S., She
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## ALIGNMENTS

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C;Species: Homo sapiens (man)
C;Date: 01-Nov-1996 #sequence_revision 01-Nov-1996 #text_change 01-Dec-2000
C;Accession: I38400; A53668; A55753
R;Maresh, G.A.; Marken, J.S.; Neubauer, M.; Aruffo, A.; Hellstrom, I.; Hells
DNA Cell Biol. 13, 87-95, 1994
A;Title: Cloning and expression of the gene for the Melanoma-Associated ME20
A;Reference number: I38400; MUID:94235165
A;Accession: I38400
melanocyte-specific protein Pmel-17 precursor - human C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 19-Jun-1992 *sequence_revision 19-Jun-1992 *text_change 30-Sep-1993 C;Accession: A4123 C;Accession: A4123 C;Kozak, C.A.; Copeland, N.G.; Gilbert, D.J.; Jenkins, Proc. Natl. Acad. Sci. U.S.A. 88, 9228-9232, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: mRNA
A;Residues: 1-161;'F',163-592,594-662 <KAW>
C;Keywords: glycoprotein
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R;Kawakami, Y.; Eliyahu, S.; Delgado, C.H.; Robbins, P.F.; Sakaguchi, K.; Appella, I Proc. Natl. Acad. Sci. U.S.A. 91, 6458-6462, 1994
A;Title: Identification of a human melanoma antigen recognized by tumor-infiltrating A;Reference number: A55753; MUID:94294401
A;Accession: A55753
A;Status: nucleic acid sequence not shown; not compared with conceptual translation A;Status: nucleic acid sequence not shown;
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R;Adema, G.J.; de Boer, A.J.; V9gel, A.M.; Loenen, W.A.M.; Figdor, C.G.
J. Biol. Chem. 269, 20126-20133, 1994
A;Title: Molecular characterization of the melanocyte lineage-specific antigen gp100.
A;Reference number: A53668; MUID:94327568
A;Accession: A53668
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N;Alternate names: melanoma antigen 25
                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KTWGQYWAV 9
                                                                                                                                                                                                                                                                                                                                                              KTWGQYWQV 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 53; DB
Pred. No. 0.88
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2;
0.88;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 662;
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A; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, K. Nature 390, 249-256, 1997

A; Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gallericch, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois, A.; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueely, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon, A.; Authors: Schleich, S.; Schroetter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama, T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, K.; Aluthors: Yoshikawa, H.; Danchin, A.
A; Aluthors: Yoshikawa, H.; Danchin, A.
A; Reference number: A69580; MUID:98044033

A; Rocession: C69708

A; Alcession: C69708
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A:Title: Mouse silver mutation is caused by a single base insertion in the putative cyto A; Reference number: S53871; MUID:95175358

A:Accession: S53871
A;Cross-references: GB:Z99115; GB:Z99116; GB:AL009126; NID:g2634723; A;Experimental source: strain 168 R;Moriyama, R.; Hattori, A.; Miyata, S.; Kudoh, S.; Makino, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Fe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Bacillus subtilis
C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 21-Jul-2000
C;Accession: C69708; T44770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pmel 17 protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 05-Nov-1999
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S53871
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                                                                                     A; Molecule type: DNA
A; Residues: 1-305 < KUN>
                                                                                                                                       A; Status: preliminary; nucleic acid
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A; Molecule type: mRNA
A; Residues: 1-626 <KWO>
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A; Residues: 1-668 < KWO>
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Best Local S
Matches 8
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Best Local
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77.8%;
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88.9%;
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Pred. No. 3.4;
1; Mismatches
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0.89;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , G.; Azevedo, V.; Berteno, V.; Carter, N.M.; Cho Fabret, C.; Ferrari, E.
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                                                          PIDN:CAB14225.1;
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                                                                                  A;Cross-references: GB:AE005174; NID:g12516559; PIDN:AAG57356.1; A;Experimental source: strain O157:H7, substrain EDL933
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A;Genome: chloroplast
C;Superfamily: cytochrome
C;Keywords: chloroplast
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                                                                                                       A;Title: Genome sequence of A;Reference number: A85480; A;Accession: H85861
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A; Cross-references: EMBL:D79978; NID:g1688021;
A; Experimental source: strain 168
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A;Accession: T44770
                                                                                                                                                                                                           R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glas: iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, Nature 409, 529-533, 2001
                                                                                                                                                                                                                                                                              C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001
C;Accession: H85861
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose,
A; Molecule type: DNA
A; Residues: 1-264 <STO>
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                                                                      A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein Z3480 [imported] - Escherichia coli (strain O157:H7)
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A; Residues: 1-315 <WAK>
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Best Local Similarity
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nes 5; Conserv
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85.7%;
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MUID:21074935; PMID:11206551
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Pred. No.
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Pred. No.
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K.; Apoda
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GSPDB:GN00145;

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RESULT
A82104
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A; Residues: 1-276 < KRW>
A; Cross-references: DDBJ: AP000064;
A; Cross-references: DDBJ: AP000064;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 K;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, DNA Res. 6, 83-101, 1999
                                                                                                                                                                                  A; Molecule Lyru. A; Residues: 1-281 <HEI>A; Cross references: GB: AE004294;
A; Cross references: serogroup
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 probable lactose transport system permease protein APE2253 - C;Species: Aerosvium norriv
                                                                                                                            A; Map position: 1
C; Superfamily: hypothetical protein HI1037
                                                                                                                                                                                                                                                                                                                                      R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; chardson, D.; Ermolaeva, M.D.; Vamathevan, J.;
                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
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;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000
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Best Local
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T.; Kudoh, Y.
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H.; Dragoi, :
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[.; Sellers,
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hypothetical protein - Synechocystis sp. C:Species: Synechocystis sp. A:Variety: PCC 6803 C:Date: 25-Apr-1997 #sequence_revision C:Rocession: S76446
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perr A.; Rose, D.J.; Mau, B.; Shao, Y. Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia A;Reference number: A64720; MUID:97426617
A;Accession: H64992
                                                                                                            hypothetical protein b2226 - Escherichia coli (strain K-12) C;Species: Escherichia coli (C;Species: Escherichia coli C;Date: 17-Sep-1997 #sequence_revision 17-Sep-1997 #text_ch C;Accession: H64992
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C;Date: 10-Sep-1999 #sequence_revision
C;Accession: S52775
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A; Residues: 1-400 <KAN>
A; Cross-references: EMBI
A; Note: the nucleotide:
                                                                                                          C; Accession:
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A; Accession: S76446
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A; Title: Sequence
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A Res. 3, 109–136, 1996
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61-65, 1994
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Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Ya
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                                                                                          Perna,
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                                                                                                                                                                                                                                                                                                                                      0;
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                                                                                                                                                                                                                                                                                                                                                                        Length 400
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                                      coli K-12
                                                                                            N.T.;
                                                                                            Burland, V.; Riley,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chloroflexus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-Jul-2000
                                                                                                                                                                                                                                                                                                                                    0
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Yas

preliminary; nucleic acid sequence not shown;

translation

not shown

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A; Nolecule type: DNA
A; Molecule type: DNA
A; Residues: 1-807 <BLAT>
A; Cross-references: GB:AE000204; GB:U00096; NID:g1787256; PIDN:AAC74109.1; PID:g1787261
A; Cross-imanifal source: strain K-12, substrain MG1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Accession: F64844

R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; E
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997

A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617

A;Accession: F64844
                                                               A; Gene: ycds
C; Superfamily:
                                                                                                  A; Experimental
C; Genetics:
                                                                                                                                                                                                A;Title: Genome sequence of enterohemorrhagic Escherichia A;Reference number: A85480; MUID:21074935; PMID:11206551 A;Accession: F85647
                                                                                                                                                                                                                                              C;Accession: F85647
R;Perna, N.T.; Plunkett III, G.; F
iller, L.; Grotbeck, E.J.; Davis,
Nature 409, 529-533, 2001
                                                                                                                                                                                                                                                                                                         probable outer membrane protein ycdS [imported] - Escherichia coli (strain 0157:H7)
C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001
                                                                                                                                                                                                                                                                                                                                                              RESULT
F85647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:AE000312; GB:U00096; NID:g1788555; PIDN:AAC75286.1; A;Experimental source: strain K-12, substrain MG1655 C;Superfamily: Escherichia coli hypothetical protein b2226
                                                                                                              A;Cross-references: GB:AE005174; NID:g12514389; A;Experimental source: strain O157:H7, substrain
                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-807 <STO>
                                                                                                                                                                               A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ycdS protein precursor - Es
C;Species: Escherichia coli
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A; Residues: 1-549 <BLAT>
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Best Local S
Matches 5
 Query Match
Best Local Similarity
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Best Local (
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5; Conser
                                                                  Escherichia
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100.0%; Pr
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   69.0%;
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                                                                  coli
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avis, N.W.; Lim, A.; Dimalanta,
                                                               ycdS
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 Score .
                                                               protein
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97;
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68;
   DB
97;
                                                                                                                 PIDN:AAG55642.1; GSPDB:GN00145; UWGP:Z1 n EDL933
                ν,
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imalanta, E.;
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                                                                                                                                                                                                                                                             D.J.;
K.; Ap
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S46301
hypothetical protein Rv0090 C; Species: Mycobacterium tul
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. M.; Shen, M.; Vamathevan, J.
S.; Smith, H.O.; Venter, J.C.;
Science 286, 1571-1577, 1999
A;Title: Genome sequence of th
A; Reference number: A75250; MU
A; Accession: A75530
                                                                                                                                                                                                                                                                                                                                                                                                              cytochrome c-type biogenesis protein, heme exporter protein C - Deinococcus C;Species: Deinococcus radiodurans C;Date: 03-Dec1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000 C;Accession: A75530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: EMBL:X77333; NID:g535080; PIDN:CAA54547.1; PID:g535081
A;Experimental source: cultivar DUN
C;Keywords: light-harvesting complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;LaRoche, J.; Henry, D.; Wyman, K.; Sukenik, A.; Falkowski, Plant Mol. Biol. 25, 355-368, 1994
A;Title: Cloning and nucleotide sequence of a cDNA encoding
                                                Query Match
Best Local Similarity
Watches 5; Conserve
                                                                                                                                                A; Map position:
C; Superfamily:
                                                                                                                                                                                                                                                                                                                                                                               C;Accession: A75530
R;White, O.; Eisen, J.A.; Heidelberg, J.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Species: Isochrysis galbana
C; Date: 19-Mar-1997 #sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fucoxanthin chlorophyll a/c-binding light-harvesting N; Alternate names: FCP protein
                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-236 <WHI>
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A; Residues: 1-208 <LAR>
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                                                                                                                                                                                  A; Gene: DR0348
                                                                                                                                                                                                                   A; Cross-references: GB: AE001895; A; Experimental source: strain R1
                                                                                                                                                                                                                                                                                 A; Status: preliminary
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Best Local Similarity
Matches 5; Conser
101 TWGTYW 106
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                              2 TWGQYW 7
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                                                                 Conservative
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                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                J.C.; Fraser, C.M.
                                                                                67.2%;
83.3%;
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83.3%;
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                                                                                                                                                                                                                                 GB:AE000513; NID:g6458024; PIDN:AAF09930.1; PID:g645
                                                               Score 39; DB
Pred. No. 45;
0; Mismatches
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Pred. No.
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45;
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40;
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                                                                                                Length 236
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Utterback,
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T.; Zalewski,
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tuberculosis

Mycobacterium

tuberculosis

(strain

H37RV)

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A; Map position: 4L
C; Superfamily: Saccharomyces protein-tyrosine-phosphatase, nonreceptor type 1; protein-t
C; Superfamily: Saccharomyces protein-tyrosine-phosphatase, tyrosine-specific phosphatas
C; Keywords: phosphoprotein; phosphoric monoester hydrolase; tyrosine-specific phosphatas
F; 52-303/Domain: protein-tyrosine-phosphatase homology <PTP>
F; 522/Active site: Cys (phosphocysteine intermediate) #status predicted
F; 258/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein-tyrosine-phosphatase (EC 3.1.3.48), nonreceptor type 1 - yeast (Saccharomyces N,Alternate names; protein D0815; protein YDL230w C;Species: Saccharomyces cerevisiae C;Date: 30-bec-1991 #sequence_revision 08-Mar-1996 #text_change 21-Jul-2000 C;Accession: A39862; S67793
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                                                Q
                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: SGD:S0002389; MIPS:YDL230w
                                                                                                                                                                                                                                                                                                                                                                                                              A;Gene: SGD:PTP1; MIPS:YDL230w
                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-335 < RAS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   submitted to the Protein Sequence Database, As Reference number: S67778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Guan, K.; Deschenes, R.J.; Qiu, H.; Dixon, J.E. J. Blol. Chem. 266, 12964-12970, 1991
A;Title: Cloning and expression of a yeast protein A;Reference number: A39862; MUID:91302312
A;Accession: A39862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Experimental source: strain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: EMBL:Z74278; NID:g1431387; PIDN:CAA98809.1; PID:g1431388;
A;Experimental source: strain S288C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession:
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A;Residues: 1-335 <GUA>
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Best Local S
Matches 6
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Best Local
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     108
                                                     1 KTWGQYW 7
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KTWDQFW
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                                                                                                                             Similarity
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66.7%;
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                                                                                                                             67.28;
71.48;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 39; DB
Pred. No. 48;
2; Mismatches
                                                                                                Score 39; DB 1; Pred. No. 61; 1; Mismatches
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48;
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RESULT

R;Lin,

X.; Kaul,

Rounsley, S.D.;

Shea, T.P.;

Benito, M.I.; Town, C.D.; Fujii,

C.Y

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Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marzia Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Accession: E96648
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                 RESULT
E96648
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
C;Accession: A84432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-568 <STO
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A; Accession: A84432
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A;Map position: 1
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A; Residues: 1-545 <STO>
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                                                                                          C84432
                                                                                                                RESULT
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Best Local S
Matches 4
;Accession: C84432
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Best Local
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4; Conserv
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                                                                                                                                                                                                                                                                                                    67.2%;
57.1%;
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57.1%;
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Pred. No.
                                                                                                                                                                                                                                                                                                  Score 39; DB
Pred No. 99;
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A; Experimental source: C; Genetics:
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A:Title: Cloning of an Arabidopsis histidine A;Reference number: S46236; MUID:94307379
A:Accession: S46236
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C;Accession: $46236
C;Caccession: $46236
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A;Molecule type: DNA
A;Residues: 1-585 <STO>
                              A; Gene:
                                                                                    A; Residues:
                                                                                                   A; Molecule
                                                                                                              A; Status: preliminary
                                                                                                                          A; Reference number: A; Accession: B81303
                                                                                                                                                       A; Title: The genome
                                                                                                                                                                   C.W.; Quail, M.; Ra
Nature 403, 665-668,
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C; Keywords:
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A; Map position: 2
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C;Genetics:
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A; Residues: 1-586 <FRO>
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                                                                                 type: DNA
: 1-1081 <PAR>
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                                                                                                                                          sequence of the food-borne pathogen Campylobacter jejuni reveals A81250; MUID:20150912
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84420; MUID:20083487
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57.1%;
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57.1%;
                                                       GB:AL111168; NID:g6968444; PIDN:CAB73269.1; O2, strain NCTC 11168
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1e+02;
                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    transport;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of the plant Arabidopsis thaliana.
                                                                                                                                                                                 K.M.; VanVliet,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                1;
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                                                                                                                                                                                 Α.;
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                                                                                                                                                                                 Whitehead,
                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                              Basham,
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                                                                                                                                                                                                                                                      NCTC
                                                                                                                                                                                              D.;
                                                                    PID: g69684
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                                                                                                                                                                       .; Chillin
S.; B
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A;Reference number: A35403;
A;Accession: B35403
A;Status: preliminary; not
                           R;Hryniewicz, M.; Sirko, A.; Palucha, A.; B
J. Bacteriol. 172, 3358-3366, 1990
A;Title: Sulfate and thiosulfate transport
A;Reference number: A35403; MUID:90264335
                                                                                A;Cross-references: GB:AE000330; GB:U00096; NID:g1788763; PIDN:AAC75477.1; A;Experimental source: strain K-12, substrain MG1655
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                                                                                                                           A; Molecule type: DNA
                                                                                                                                       A; Status:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession:
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                                                                                                                                      preliminary; nucleic acid sequence not shown;
                                                                                                           1-277 <BLAT>
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preliminary;

compared with

conceptual

Boeck,

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Hulanicka,

D

PID:g17887

translation

not

in Escherichia

coli K-12:

identification

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A;Reference number: A64720; MUID:97426617
A;Accession: G65016
A;Status: numler
                                                                         R; Blattner, F.R.; Plunkett I
.A.; Rose, D.J.; Mau, B.; Sh
Science 277, 1453-1462, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:D90910; GB:AB001339; NID:g1652956; PIDN:BAA17891.1; A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June C;Superfamily: Synechocystis hypothetical protein slr2003
                                                                                                                                                                                                                               R;Sirko, A,; Hryniewicz, M,; Hulanicka, D.; Boeck, A. J. Bacteriol. 172, 3351-3357, 1990
A;Title: Sulfate and thiosulfate transport in Escherichia A;Reference number: A35402; MUID:90264334
                                                                                                                                                                                                                                                                                                              C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 16-Jul-1999
C;Accession: A35402; G65016; B35403
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R;Kaneko, T.; Sato, S.; Kotani, o, K.; Okumura, S.; Shimpo, S.; DNA Res. 3, 109-136, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein slr2003 - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
                                                                                                                               A;Cross-references: GB:M32101; GB:M38050; NID:g145657; A;Experimental source: strain K12
                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-277 <SIR>
                                                                                                                                                                                                            A; Reference number: A35402;
A; Accession: A35402
                                                                                                                                                                                                                                                                                                            C; Accession: A35402; G65016;
                                                                                                                                                                                                                                                                                                                                                    C; Species: Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                         sulfate/thiosulfate transport protein cysT - Escherichia
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A; Residues: 1-209 <KAN>
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Best Local S
Matches 5
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                                                                                               Plunkett III, G.; Bloch, C.A.; Perna, Mau, B.; Shao, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
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71.4%;
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50.0%;
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Takeuchi, C.; Wada,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 38; DB Pred. No. 56; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.
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Pred. No.
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ada, T.; Watanabe,
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                                                        coli K-12
                                                                                                                                                    PIDN:AAA23637.1; PID:g145659
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                                                                                                               N.T.; Burland,
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                                                                                                               V.; Riley, M.;
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ਕਰੇਸ਼ M.; Yas
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1996
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A; Molecule type: DN
A; Residues: 1-126, '
C; Comment: This is
C; Genetics:
                             A; Molecule type: DNA
A; Molecule type: DNA
A; Residues: 1-290 <5TO>
A; Cross-references: GB: AE005174; NID: g12518989; PIDN: AAG59239.1;
A; Cross-references: GB: AE005174; NID: g12518989; PIDN: AAG59239.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, Nature 409, 529-533, 2001

A;Title: Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Map position: 52 min
C; Superfamily: maltose transport protein malG
C; Keywords: binding protein-dependent transport
A; Gene: ubiA
C; Superfamily:
                                                                                                                                             A; Title: Genome sequence of enterohemorrhagic Escherichia A; Reference number: A85480; MUID:21074935; PMID:11206551 A; Accession: C86097
                                                                                                                                                                                                        R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, Nature 409, 529-533, 2001
                                                                                                                                                                                                                                                                C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001
C;Accession: C86097
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001
C;Accession: B85885
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose,
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                                                                                                                                A; Status: preliminary
                                                                                                                                                                                                                                                                                                     4-hydroxybenzoate-octaprenyltransferase [imported] -
C;Species: Escherichia coli
                                                                                                                                                                                                                                                                                                                                                            RESULT
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A;Accession: B85885
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A;Reference number: A85,480; MUID:21074935; PMID:11206551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein cysU [imported] – Escherichia coli (strain O157:H7)
C;Species: Escherichia coli
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Best Local S
Matches 5
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5; Conser
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5; Conser
4-hydroxybenzoate octaprenyltransferase
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one of the
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62.5%;
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membrane-associated
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Pred. No.
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Pred. No.
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73;
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lanta, E.;
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                                                                                                                                                                                       O157:H7
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                                                                        GSPDB:GN00145; UWGP:Z56
                                                                                                                                                                                                                                                                                                                       coli (strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
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K.; A
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Score 38;

DB 2;

Length 290;

preliminary; translated from GB/EMBL/DDBJ

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R;Suzuki, K.; Ueda, M.; Yuasa, M.; Nakagawa, T.; Kawamukai, M.; Matsuda, H. Biosci. Biotechnol. Biochem. 58, 1814-1819, 1934
A;Title: Evidence that Escherichia coli ubia product is a functional homology, A;Mccession: JC2316; MUID:95072311
A;Mccession: JC2316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross references: GB:M93413; NID:g148106; PIDN:AAA24717.1; PID:g148108
A;Note: sequence extracted from NCBI backbone (NCBIN:110475, NCBIP:110480)
R;Nishimura, K.; Nakahigashi, K.; Inokuchi, H.

J. Bacteriol. 174, 5762, 1992
A;Title: Location of the ubia gene on the physical map of Escherichia coli.
A;Reference number: S25660; MUID:92380960
A;Accession: S25661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R:Siebert, M.; Bechthold, A.; Melzer, M.; FEBS Lett. 307, 347-350, 1992
A;Title: Ubiquinone biosynthesis. Cloning A;Reference number: $24360; MUID:92334744
A;Accession: $24361
A; Reference number: I55717; MUID: 94014977 A; Accession: I70801
                                          A;Residues: 48-290 <III>
R;Wu, G.; Williams, H.D.; Gibson, F.; Poole, R
J. Gen. Microbiol. 139, 1795-1805, 1993
A;Title: Mutants of Escherichia coli affected
                                                                                                                                                                                A;Title: The 92-min region of the Escherichia A;Reference number: PC1295; MUID:93328130 A;Accession: PC1295
                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X69522; NID:g41180; PIDN:CAA49270.1; R;Lilley, P.E.; Stamford, N.P.J.; Vasudevan, S.G.; Dixon, N.E Gene 129, 9-16, 1993
                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-290 <WOL>
                                                                                                                                                                                                                                                                                                                                                                                                              submitted to the EMBL Data A; Reference number: S31432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:X57434; NID:g43233; PIDN:CAA40682.1; PID:g43235 A;Experimental source: strain K12 W3110
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A; Residues: 1-290 <SIE>
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A; Residues: 1-290 <NIC>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Cross-references: EMBL: X66619; NID: g43230; PIDN: CAA47182.1;
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A; Residues: 1-290 <SUZ>
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R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Reich, C.I.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glocrson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A. Science 273, 1058-1073, 1996
A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein F58G1.7 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T22928
R;Smye, R.
submitted to the EMBL Data Library, November 1996
A;Reference number: Z19639
A;Accession: T22928
A;Accession: T22928
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Accession: T299: DNA
A;Residues: 1-569 <WILD-
A;Cross-references: EMBL:Z81556; PIDN:CABO4519.1; GSPDB:GN00020; CESP:F58G1.7
A;Experimental source: clone F58G1
                                                                                                                   hypothetical protein MJ1185 - Methanococcus jannaschii C;Speciles: Methanococcus jannaschii C;Speciles: Methanococcus jannaschii C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000 C;Accession: H64447
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A;Cross-references: GB:AE000477; GB:U00096; NID:g2367338; PIDN:AAC77010.1; PID:g1790473; A;Cross-references: Strain K-12, substrain MG1655
C;Genetics:
A;Gene: ublA; cyr
A;Map position: 92 min
C;Function:
A;Map position: catalyzes a key step in ubiquinone biosynthesis (condensation of octapren C;Superfamily: 4-hydroxybenzoate octaprenyltransferase
C;Keywords: transferase
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A;Accession: G65211
A;Status
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A;Residues: 1-81 <RES>
A;Residues: 1-81 <RES>
A;Cross-references: GB:M96268; NID:g347886; PIDN:AAA17028.1; PID:g347889
A;Closs-references: GB:M96268; NID:g347886; PIDN:AAA17028.1; PID:g347889
A;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.;
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
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A; Introns: 49/3
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A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannasc A;Reference number: A64300; MUID:96337999
A;Accession: H64447
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Mosidues: 1-622 <BUL>
A;Cross references: GB:U67559; GB:L77117; NID:g1591798; PIDN:AAB99186.1; PID:g1591812
C;Genetics:
                                                                                                                                                                                                                                                                                R;Tomb. J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McK son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey Nature 388, 539-547, 1997
A;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-936 <TOM>
A; Cross-references: GB:
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A; Accession: B64567
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Compugen Ltd.
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p56315 chlorella v
p56770 arabidopsis
p76463 escherichia
q39709 isochrysis
Q10887 mycobacteri
p25044 saccharomyc
p46032 arabidopsis
p16701 escherichia
p26220 streptomyce
p31564 cyanidium c
p49523 odontella s
Q59935 streptococc
p51369 porphyra pu
p41650 pinus thunb
p48257 cyanophora
p48269 chlamydomon
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p48261 escherichia
Q59137 ruminococcu
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Q98917 gallus gall
P50739 bacillus su
P56315 chlorella v
P56770 arabidopsis
P76463 escherichia
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## ALIGNMENTS

RL DNA Cell B. RN [5] RP SEQUENCE FI RA KWON B.S., RA YOUN B. P. RL SUBMITTED RP SEQUENCE FI RA VOGEL A.; RL SUBMITTED		[1] SEQUEL MEDLII KWON   Gilbe. Kin k Kin k Kin k Chroma Proc. [2] SEQUEL MEDLII Adema antig	RESULY 1  PM17_HUMAN STAN  ID PM17_HUMAN STAN  AC P40967; Q16565; Q14  DT 01-FEB-1995 (Rel. 3  DT 01-NOV-1997 (Rel. 3  DT 01-NOV-1997 (Rel. 4  DE MELANOCYTE PROTEIN  DE ANTIGEN GP100) (MEL  DE (ME20-M/ME20-S) (95  GN SILV OR PMEL17 OR L  OS Homo Sapiens (Human  OC Eukaryota; Metazoa;  OX NCB1_TaxID-9906;  OX NCB1_TaxID-9906;
Biol. 13:87-95(1994).  FROM N.A. , Kim K., Heng H.H., Shi X.M., Tsui L., Lee Z.H., Pickard R.T.; I (JAN-1996) to the EMBL/GenBank/DDBJ databases.  FROM N.A. I (NOV-1990) to the EMBL/GenBank/DDBJ databases.	Pub I., tion mous ol. Pub Pub en J Marq essi	SEQUENCE FROM N.A.  SEQUENCE FROM N.A.  MEDLINE=92021023; PubMed=1924386;  KWON B.S., Chintamaneni C., Kozak C.A., Copeland N.G.,  Gilbert D.J., Jenkins N.A., Barton D., Francke U., Kobayashi Y.,  Kim KK.;  "A melanocyte-specific gene, Pmel 17, maps near the silver coat color  locus on mouse chromosome 10 and is in a syntenic region on human  chromosome 12 ";  Proc. Natl. Acad. Sci. U.S.A. 88:9228-9232(1991).  [2]  SEQUENCE FROM N.A.  MEDLINE=94327568; PubMed=7519602;  Adema G.J., de Boer A.J., Vogel A.M., Loenen W.A., Figdor C.G.;  "Molecular characterization of the melanocyte lineage-specific  antigen 9p100.";  1. Biol. Chem. 269:20126-20133(1994).	HUMAN STANDARD; PRT; 661 AA.  PM17_HUMAN STANDARD; PRT; 661 AA.  PM17_HUMAN STANDARD; PRT; 661 AA.  PM10867; Q16565; Q14817; Q12763; Q144448;  P101-967; Q16565; Q14817; Q12763; Q144448;  P101-967; QRel. 31, Created)  P101-967; QRel. 35, Last sequence update)  PMELANOCYTE PROTEIN PMEL 17 PRECURSOR (MELANOCYTE LINEAGE-SPECIFIC ANTIGEN GP100) (MELANOMA-ASSOCLATED ME20 ANTIGEN) (ME20M_ME20S)  PMELATOR GP100) (MELANOMA-ASSOCLATED ME20 ANTIGEN)  PMELATOR OR DP100; PRELATOR MELANOCYTE-SPECIFIC SECRETED GLYCOPROTEIN).  SILV OR PMEL17 OR D12S53E.  HOMO Saplens (Human).  EUKARYOTA; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  NCB1_TaxID-9606;

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TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSION WAS FOUND IN DYSPLASTIC NEVI TISSUES NOR IN CARCINOMAS.
SIMILARITY: BELONGS TO THE PMEL-17/NMB SIMILARITY: CONTAINS 1 PKD DOMAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: TYPE IS ALSO A SECRETED SOLUBLE
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PS50093; PKD;
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AAA35930.
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Q1-NOV-1997 (Rel. 35, Created)
Q1-NOV-1997 (Rel. 35, Last sequence update)
Q1-OCT-2000 (Rel. 40, Last annotation update)
MELANOCYTE PROTEIN PMEL 17 PRECURSOR (SILVER
SILV OR PMEL17 OR D10H12S53E OR SI.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-C57BL/6; TISSUE-Skin;
MEDLINE-95175358; PubMed-7870580;
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Mammalia; Eutheria;
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Bennett D., Pickard R.T.;
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SIMILARITY: CONTAINS
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7 x 13 AA APPROXIMATE TANDEM REPEATS
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Sciurognathi;
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DOMAIN.
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thi; Muridae;
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Q98917;
15-JUL-1998
          PROSITE;
Signal; G
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                                                                          entities
or send a
                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                   "Expression of gene coding for a melanosomal matrix protein transcriptionally regulated in the transdifferentiation of chick embryo pigmented epithelial cells."; cell Differ. 24.67-74.1700
                                                                                                                                                                                                                                                                  Cell
                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-WHITE LEGHORN;
MEDLINE-92020667; Pub
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01-OCT-2000
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                                      Pfam; PF00801; PKD;
                                                       EMBL; D88348; BAA13589.1;
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                                                                                                                                                                                                                                                                                                               STRAIN=WHITE LEGHORN;
MEDLINE-88311098; Publ
                                                                                                                                                                                                                                                                                                                                   CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                    "Complete sequence and expression of 115 kDa melanosomal matrix protein.", Pigment Cell Res. 4:41-47(1991).
                                                                                                                                                                                                                                                                                                                                                                                Mochii M., Agata K.,
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9031
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Archosauria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gallus gallus (Chicken).
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FUNCTION: MIGHT BE REQUIRED FOR POLYMERIZATION OF MELANIN ONTO THE CORE STRUCTURE OF MELANOSOMES WITH ENZYMIC FUNCTION OF TYROSINASE. SUBCELLULAR LOCATION: ON THE FIBROUS MATRIX STRUCTURE OF THE
                                                                                                                                                  SIMILARITY: BELONGS TO THE PMEL-17 SIMILARITY: CONTAINS 1 PKD DOMAIN.
                                                                                                                                                                                       DEVELOPMENTAL STAGE:
                                                                                                                                                                                                         TISSUE SPECIFICITY: SPECIFIC MELANOCYTES. NOT EXPRESSED IN
                                                                                                                                                                                                  GIZZARD OR LIVER.
                                                                                                                                                                                                                              PREMELANOSOME
                                                                                                                                                                               PIGMENTED EPITHELIAL
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                                                                         s requires a license agreement (See an email to license@isb-sib.ch).
                 Glycoprotein;
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                                               IPR000601;
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PubMed=3409326;
                             PKD;
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Neognathae;
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annotation update)
115 KDA PROTEIN PRECURSOR
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MELANOSOMAL MATRIX PROTEIN 115
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nes; Phasianidae; Phasianinae;
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RESULT 4
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01-OCT-1996 (Rel. 34
15-JUL-1999 (Rel. 38
SPORE-CORTEX-LYTIC F
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P50739;
                     EMBL; D79978; BAA11473.1; ... EMBL; L47648; AAC83957.1; ... EMBL; Z99115; CAB14209.1; ... EMBL; Z99116; CAB14225.1; ...
                                                                                                                                                                     "Sequence analysis of the Bacillus the serA and kdg loci cloned in a Microbiology 142:2005-2016(1996).
                                                                                         entities
                                                                                                               use
                                                                                                                                                                                                                             STRAIN=168 / MARBURG;
MEDLINE=96349105; PubMed=8760912;
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                                                                                                 modified and this statement is not removed
                                                                                                                         the European
                                                                                                                                       between
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                                                                                                                                                                                                                                                     SEQUENCE FROM
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NCBI_TaxID=1423;
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SEQUENCE
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"Complete nucleotide sequence of the chloroplast genome green alga Chlorella vulgaris: the existence of genes pc involved in chloroplast division.",
Proc. Natl. Acad. Sci. U.S.A. 94:5967-5972(1997).
-1- FUNCTION: REQUIRED DURING CYTOCHROME BIOGENESIS AT THEME ATTACHMENT (BY SIMILARITY).
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P56315;
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Cytochrome
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STRAIN-IAM C-27 /
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PF01578; CytC_asm; 1.
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NCE 315 AA; 35471 MW;
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                                                                                                Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                    "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN-K12 / MG1655;
STRAINE-97426617; PubMed-9278503;
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Sato S., Nakamura Y., Kaneko T., Asamizu E., T
"Complete structure of the chloroplast.genome
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Brassicales; Brassicaceae;
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SEQUENCE
                                                                                                                                                                                                                                                                         "A 718-kb DNA sequence of the Escherichia coli K-12 corresponding to the 12.7-28.0 min region on the lin DNA Res. 3:137-155(1996).
-- SUBCELLULAR LOCATION: OUTER MEMBRANE (POTENTIAL).
-- SIMILARITY: STRONG, TO Y. PESTIS HEMIN-BINDING PR
                                                                                                                                                                                                                                                                                                                                                                                                      Ikemoto K., Inada T., Itoh T.,
Kimura S., Kitagawa M., Makino
Mori H., Motomura K., Nakamura
Sampei G., Seki Y., Tagami H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-K12 / MG1655;
MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A
Riley M., Collado-Vides J., Glasner J.D.,
Gregor J., Davis N.W., Kirkpatrick H.A., (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    modified and this statement is not remove
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                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bloinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ified and this statement is nor removed. Usage by and for commercial ities requires a license agreement (See http://www.isb-sib.ch/announce/send an email to license@isb-sib.ch).
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                      AE000204; AAC74109.1;
D90739; BAA35806.1; -.
D90740; BAA35809.1; -.
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. Itoh T., Kajihara M., Kanai K., Kashimoto K.,
M., Makino K., Masuda S., Miki T., Mizobuchi K.,
., Nakamura Y., Nashimoto H., Nishio Y., Saito N.,
Tagami H., Takemoto K., Wada C., Yamamoto Y.,
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27;
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yhew G.F.
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      Pfam; PF00504; chloroa_b-bind; 2.
Light-harvesting polypeptide; Chloroplast; Photohotosystem II; Multigene family; Chlorophyll; Thylakoid membrane; Transit peptide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-DUN;
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SUBCELLULAR LOCATION: CHLOROPLAST THYLAKOID MEMI PROBABLY TRANSPORTED ACROSS THE ENDOPLASMIC RET. THAT SURROUND THE PLASTID VIA A SIGNAL PEPTIDE, TRANSLOCATION ACROSS THE THYLAKOID MEMBRANE VIA INDUCTION: EXPRESSION IS INCREASED 5-FOLD UNDER
                                                                                                                                                                                                                                                                                                                                                                          THE LIGHT-HARVESTING COMPLEX (LHC) FUNCTIONS AS A LIGHT FUNCTION: THE LIGHT-HARVESTING COMPLEX (LHC) FUNCTIONS AS A LIGHT RECEPTOR, IT CAPTURES & DELIVERS EXCITATION ENERGY TO PHOTOSYSTEMS WITH WHICH IT IS CLOSELY ASSOCIATED. ENERGY IS TRANSFERED FROM THE CAROTENOID AND CHL C (OR B) TO CHL A AND THE PHOTOSYNTHETIC REACTION CENTERS WHERE IT IS USED TO SYNTHESIZE ATP AND REDUCING
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                                                                                                                      SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the Enteuropean Bioinformatics Institute. There are no restriby non-profit institutions as long as its content by non-profit institutions are long as its content fied and this statement is not removed. Usage by and
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an email to license@isb-sib.ch).
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P25044;
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01-0CT-1996 (Rel. 34, Created)
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AC P46032;

DT 01-NOV-1995 (Rel. 32, Created)

DT 01-NOV-1995 (Rel. 32, Last sequence update)

DT 01-CT-2000 (Rel. 40, Last annotation update)

DT PEPTIDE TRANSPORTING PROTE

PEPTIDE TRANSPORTING PROTE

GN PTZ-B OR NTR1 OR ATZG02040 OR F14H20.11.

OS Arabidopsis thaliana (Mouse-ear cress).

OC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spe

OC Magnoliophyta; eudicotyledons; core eudicots; Rosidae; e

OC Brassicales; Brassicaceae; Arabidopsis.
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PIR; A39862; A39862.

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SGD; S0002389; PTP1.

InterPro; IPR000242; -.

InterPro; IPR000387; -.

Pfam; PF00102; Y_phosphatase; 1.

PRINTS; PR00700; PRTYPHPHTASE.

PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.

PROSITE; PS0055; TYR_PHOSPHATASE_2; 1.

PROSITE; PS50055; TYR_PHOSPHATASE_PTP; 1.
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ACT_SITE
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MEDLINE-91302312; PubMed-1649172;

Guan K., Deschenes R.J., Qiu H., Dixon J.E.;

"Cloning and expression of a yeast protein t
J. Biol. Chem. 266:12964-12970(1991).
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Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetales; Saccharomycetaceae; Saccharomyces
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01-MAY-1992 (Rel. 22, Last sequence update)
01-NOV-1997 (Rel. 35, Last anotation update)
PROTEIN-TYROSINE PHOSPHATASE 1 (EC 3.1.3.48)
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15F71E50694BE562 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lin X., Kaul S., Rounsley S.D., Shea T.P., Benito M.-I., Town C.D., Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T.V., Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H., Moffat K.S., Cronin L.A., Shen M., VanAken S.E., Umayam L., Tallon L.J., Gill J.E., Adams M.D., Carrera A.J., Creasy T.H., Goodman H.M., Somerville C.R., Copenhaver G.P., Preuss D., Nierman W.C., White O., Eisen J.A., Salzberg S.L., Fraser C.M., Venter J.C.; Sequence and analysis of chromosome 2 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nature 402:761-768(1999).

Nature 402:761-768(1999).

-I- FUNCTION: PEPTIDE TRANSPORT. HIGH AFFINITY, LOW CAPACIT TRANSPORTER. CAN ALSO TRANSPORT HISTIDIES.

-I- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.

-I- SIMILARITY: BELONGS TO THE PTR2 FAMILY OF TRANSPORTERS.
                                                                                                                                                                                                                                                                                                                                                                                                                    the Euro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-94307379; PubMed-8033999;
Frommer W.B., Hummel S., Rentsch D.;
"Cloning of an Arabidopsis histidine
nitrate and peptide transporters.";
FEBS Lett. 347:185-189(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                           This
                                                                                                                                                                                                                                                                                                Pfam; PF00854;
                                                                                                                                                                                                                                                                                                                                  EMBL; L39082; EMBL; X77503;
                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (See http://www.isb-sibor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                           use by non-profit institutions as long modified and this statement is not removed
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                     MGQYWAV
 WGRYWTI 116
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                                                         Similarity
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PTR2_2; 1.
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C58F8194776E2D97 CRC64;
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RESULT
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PIR; B35403; B35403.
EcoGene; EG10197; cysU.
InterPro; IPR000515; -
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_ECOLI
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                                                                    EMBL; M32101; AAA23637.1; -.
EMBL; AE000330; AAC75477.1; -.
EMBL; D90871; BAA16298.1; -.
EMBL; D90872; BAA16307.1; -.
EMBL; D90872; BAA16307.1; -.
                                                                                                                                                                                                                                         This
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"Construction of a contiguous 874-kb sequence of the Escherici-
"C12 genome corresponding to 50.0-68.8 min on the linkage map
analysis of its sequence features.";

DNA Res. 4:91-113(1997).

-1- FUNCTION: PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sirko A., Hryniewicz M.M., Hulanicka E
"Sulfate and thiosulfate transport in
nucleotide sequence and expression of
J. Bacteriol. 172:3351-3357(1990).
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CYSU OR CYST.
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Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-K12 / MG1655;
MEDLINE-97426617; PubMed-9278503;
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STRAIN-K12 / M
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Bacteria; Proteobacteria;
Escherichia.
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                    Pfam;
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SIMILARITY: WITH
                                                                                                                                                                                                                                                                    SUBFAMILY
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T SYSTEM PERMEASE F
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TRANSMEM 64
TRANSMEM 105
TRANSMEM 140
TRANSMEM 188
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Nucleic
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 Daniels D.L.;
Panalysis of the Escherichia coli genome.
"Analysis of the Escherichia coli genome.
region from 89.2 to 92.8 minutes.";
region from 89.2 to 92.8 minutes.";
                                             STRAIN-K12 / MG1655;
MEDLINE-94089392; PubMed-8265357;
Blattner F.R., Burland V.D., Plunkett
                                                                    SEQUENCE FROM N.
STRAIN-K12 / MG1
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                                                                                                                                                                                                                                        Siebert M., Bechthold A., Melzer M., May U., Berger U., Schroeder G. Schroeder J., Severin K., Heide L.;
"Ubiquinone blosynthesis. Cloning of the genes coding for chorismate pyruvate-lyase and 4-hydroxybenzoate octaprenyl transferase from
                                                                                                                                                                                                                                                                                                                               "Cloning and sequencing of Escherichia chorismate lyase.";
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Bacteria; Proteobacteria;
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                                                                                                                               SEQUENCE FROM
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MEDLINE-92354744; PubMed-1644192;
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    Bacteriol.

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the ubiA gene on the physical
174:5762-5762(1992).
                                                                                                                                                                                                                                                                                                                       174:5309-5316(1992)
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OCTAPRENYLTRANSFERASE (EC 2.5.1.-) (4-HB
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MEDLINE=94014977; PubMed=84019722;
MEDLINE=94014977; PubMed=84019722;
Wu G., Williams H.D., Gibson F., Poole R.K.;
Wu G., Williams H.D., Gibson F., Poole R.K.;
Mutants of Escherichia coli affected in respiration: the
nucleotide sequence of ubiA, encoding the membrane-bound
hydroxybenzoate:octaprenyltransferase.";
Gen Microbiol. 139:1795-1805(1993).
                                                                                                     Ubiquinone
Magnesium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Melzer M., Heide L.;
Melzer M., Heide L.;
"Characterization of polyprenyldiphosphate:4-hydroxybenzoate
"Characterization of polyprenyldiphosphate:4-hydroxybenzoate
polyprenyltransferase from Escherichia coli.";
Biochim. Biophys. Acta 1212:93-102(1994).
                      TRANSMEM TRANSMEM
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MEDLINE=94207029;
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                                                                                                                                                                                                                                                                                                                                                                                                     between
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                                                                                                                                                                                                                                                                                                                                                                                                                                 COFACTOR: REQUIRES MAGNESIUM.

PATHWAY: SECOND STEP IN UBIQUINONE BIOSYNTHESIS.

SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. INNER MEI
SIMILARITY: BELONGS TO THE UBIA PRENYLTRANSFERASE FAMILY.
                                                                                                                                                                     842956; B42956;
S24361; S24361.
S25661; S25661.
S31432; S31432.
JC2316; JC2316.
                                                                                                                                                                                                                          L; M93136; AAA24712.1; -.
L; M93413; AAA24717.1; -.
L; X66619; CAA47182.1; -.
L; X57434; CAA40682.1; -.
L; X69522; CAA49270.1; -.
L; U000006; AAC43134.1; -.
L; ABEQOUAT7; BAC77010.1; -.
L; ABEQOUAT7; BAC77010.1; -.
L; M95268; AAA17028.1; -.
L; X63407; CAA45003.1; -.
L; X63407; CAA45003.1; -.
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                                                                                                                                         PF01040;
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                                                                                                                 biosynthesis;
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01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
ENDO-1,4-BETA-XYLANASE C PRECURSOR (EC 3.2.1.8) (XYLANASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _STRLI
XYNC_STRLI
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EMBL; A25307; CAA01768.1;
EMBL; JS0591; JS0591.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00776; GLYCOSYL_HYDROB_F11_1; 1
PROSITE; PS00777; GLYCOSYL_HYDROD_F11_2; 1
Xylan degradation; Hydrolase; Glycosidase;
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Pfam; PF00457; Glyco_hydro_11; 1.
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NCBI_TaxID=1916;
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CATALYTIC ACTIVITY: ENDOHYDROLYSIS OF 1,4-BETA-D-XYLOSIDIC
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PATHWAY: XYLAN DEGRADATION
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01-JUL-1993
01-NOV-1997
    SEQUENCE FROM N.A.

KOWALILK K.V., Stoebe B., Schaffran I., Kroth-Pancic P.,

"The chloroplast genome of a chlorophyll a+c-containing
odontella sinensis.";

Plant Mol. Biol. Rep. 13:336-342(1995).

Plant Mol. Biol. Rep. 13:336-342(1995).

PLANT MOLTON: REQUIRED DURING CYTOCHROME BIOGENESIS AT THEME ATTACHMENT (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-93004479; PubMed-1391770;
Valentin K., Maid U., Emich "
"Organization"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Valentin K., Maid U., Emich A., Zetsche K.;
"Organization and expression of a phycobiliprotein gene
the unicellular red alga Cyandium caldarium.";
Plant Mol. Biol. 20:267-276(1992)
- FUNCTION: REQUIRED DURING CTYCCHROME BIOGENESIS AT THEME ATTACHMENT (BY SIMILARITY).
- SIMILARITY: BELONGS TO THE CCMF/CYCK/CCL1/NRFE/CCSA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chloroplast
                                                                                                                              Eukaryota; stramenopiles;
Biddulphiophycidae; Eupod
                                                                                                                                                   Chloroplast
                                                                                                                                                                  Odontella sinensis
                                                                                                                                                                                                    01-FEB-1996
01-NOV-1997
                                                                                                                                                                                                                           P49523;
01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR002541; -.
Pfam; PF01578; CytC_asm; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota;
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                                                                                                                  NCBI_TaxID=2839;
                                                                                                                                                                                          CYTOCHROME C
                                                                                                                                                                                                                                                    CCSA_ODOSI
                                                                                                                                                                                                                                                                                                                                                                                                                       Cytochrome c-type biogenesis; SEQUENCE 306 AA; 35263 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch)
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$25309; $25309.
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4; Conservative
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C BIOGE
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35,
                                                                                                                              piles; Bacillariophyta; Coscinodiscophyceae;
Eupodiscales; Eupodiscaceae; Odontella.
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Last annotation update)
IS PROTEIN CCSA.
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                                                                                                                                                                                                                                                                                                                                                                                                                       Chloroplast.
4C3C9AFB48292F4F CRC64;
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                                  AT THE STEP
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Query Match
Best Local Similarity
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Best Local :
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METAL
SEQUENCE
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Q59935;
Q1-NOV-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Isolation and sequence analysis of the pmi gene phosphomannose isomerase of Streptococcus mutans. FEMS Microbiol. Lett. 114:61-66(1993).

-i- CATALYTIC ACTIVITY: D-MANNOSE 6-PHOSPHATE = I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRMU
                                                                                                                                                                                                           PROSITE; PS00965;
PROSITE; PS00966;
                                                                                                                                                                                                                                                                                                   EMBL; D16594; BAA04021.1;
                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MANNOSE-6-PHOSPHATE ISOMERASE (EC 5.3.1.8) (PHOSPHOMANNOSE ISOMERASE)
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                                                                                                                                                                                                                                                   PF01238; PMI_typeI; 1
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PMI_I_2;
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ZINC (BY SIMILARITY).
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748390BE4BE3C5B9 CRC64;
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  37;
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No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OF MANNOSE-6-PHOSPHATE ISOMERASES
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RESULT 19
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation updat
CYTOCHROME C BIOGENESIS PROTEIN CCSA.
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  MEDLINE-95024047; Pub
Wakasugi T., Tsudzuki
                                                                                                            Eukaryota; Viridiplantae; Embryophyta; Coniferopsida; Coniferales; Pinaceae;
                                                                                                                                                        Pinus thunbergii (Green pine) (Japanese black pine).
Chloroplast
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Pfam; PF01578; CYCC_asam; 1.
Cytcohrome c-type biogenesis; Chloroplast.
SEQUENCE 319 AA; 35213 MW; 71AFBA3A1B7E0D48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-NOV-1997
                                               SEQUENCE FROM
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Chloroplast
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               - I - SIMILARITY: BELONGS TO THE CCMF/CYCK/CCL1/NRFE/CCSA FAMILY.
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PubMed=7937893;
zuki J., Ito S.,
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Pred. No.
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    Tsudzuki
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RESULT 21
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                                                            Pfam; PF01578; CytC_asm; 1.
Cytochrome c-type biogenesis;
SEQUENCE 322 AA; 37453 MW;
                                                                                                                                                                                                                                                                 Bryant D.A.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases
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01-FEB-1996 (Rel. 33,
01-NOV-1997 (Rel. 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  P48257;
01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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-1- FUNCTION: REQUIRED DURING CYTOCHROME BIOGENESIS AT T
                                                                                                                                                                                                                                                                                                Stirewalt V.L.,
                                                                                                                                                                                                                                                                                                            STRAIN-LB555
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                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=2762;
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                                                                                                                                                                                                                                                                                                                                                                            Cyanelle.
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Pfam; PF01578; CytC_asm; 1.
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SIMILARITY: BELONGS TO THE CCMF/CYCK/CCL1/NRFE/CCSA FAMILY.
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Score 37; DB Pred. No. 47; 2; Mismatches
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                                                            Cyanelle.
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EMBL; U09190; AAB03815.1; --
InterPro; IPR002541;
Pfam; PF01578; CytC_asm; 1.
Cytochrome c-type biogenesis; C
CONFLICT 342 342 T
SMF_HAEIN STANDARD;
P43862;
01-NOV-1995 (Rel. 32, Created)
                                                                                                                                                                                                                                                                                                                                                                                                   modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The plastid-encoded ccsA gene is chloroplast c-type cytochromes."; J. Biol. Chem. 271:4632-4639(1996)
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01-FEB-1996 (Rel.
01-NOV-1997 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=96214878;
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Chlamydomonas.
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Chlamydomonas
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Mismatches
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01-OCT-2000 (Rel. 4
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HYPOTHETICAL 83.5 M
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15-DEC-1998
SMF PROTEIN
SEQUENCE FROM N.A.
STRAIN-K12 / MG1655;
MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
TIGR;
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MEDLINE=95350630; PubMed=7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F.,

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Merrick J.M.,

Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,

McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,

Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,

Weidman J.F., Phillips C.A., Sirty Glodek A., Kelley J.M.,

Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C.,

Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M.,

Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                         YGIQ OR B3015/B3016.
Escherichia coli.
                                                                                                                                                                                                                  YGIQ_ECOLI
Q46861; Q46862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Science 269:496-512(1995).
-!- FUNCTION: REQUIRED FOR CHROMOSOMAL BUT
-!- SIMILARITY: BELONGS TO THE SMF FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-RD / KW20 / AT Karudapuram S., Zhao Submitted (DEC-1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMF OR DPRA OR HI0985. Haemophilus influenzae.
                                                                             NCBI_TaxID=562;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Proteobacteria;
                                                                                                         Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Whole-genome random sequencing
influenzae Rd.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Venter J.C.;
                                                                                                                                                                                                                                                                                                               123
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           send an email to license@isb-sib.ch).
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5; Conserv
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                                                                                                                                                                                                                                   STANDARD;
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Zhao X., Barcak G.J.;
994) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                 35, Created)
40, Last sequence update)
40, Last annotation update)
KDA PROTEIN IN METC-SUFI INTERGENIC REGION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       32, Last sequence update)
37, Last annotation update)
PROCESSING CHAIN A).
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2; Mismatches
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AC 053317
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Best Local S
Matches 5
                                        glucanase domains, encoded by the xynD ge flavefaciens.";

J. Bacteriol. 175:2943-2951(1993).
-i- FUNCTION: CONTAINS TWO CATALYTIC DOMA BETA-1,3-1,4 GLUCANASE ACTIVITIES.
-i- CATALYTIC ACTIVITY: ENDOHYDROLYSIS OF LINKAGES IN XYLANS.
-i- CATALYTIC ACTIVITY: HYDROLYSIS OF 1,4
-i- CATALYTIC ACTIVITY: HYDROLYSIS OF 1,4
-i- PATHWAY: XYLAN DEGRADATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rudd K.E.;
Unpublished
-!- SIMILARI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            XYND_RUMFL STANDARD; PRT; 802 AA.

033317;
01-NOV-1997 (Rel. 35, Created)
11-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
XYLANASE/BETA-GLUCANASE PRECURSOR [INCLUDES: ENDO-1,4-BETA-XYLANASE
XYLANASE/BETA-GLUCANASE); (ENDO-BETA-1,3-1,4 GLUCANASE) (EC 3.2.1.8)
(XYLANASE); (ENDO-BETA-1,3-1,4 GLUCANASE) (EC 3.2.1.73)

(1,3-1,4-BETA-D-GLUCAN 4-GLUCANOHYDROLASE) (LICHENASE)].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U28377; AAA69183:1; ALT_FRAME. EMBL; U28377; AAA69184:1; ALT_FRAME. EMBL; AE000383; AAC76052:1; ALT_FRAME. EMBL; AE000383; AAC76051:1; ALT_FRAME. ECCGENE; EGJ3019; Y91Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                 Flint H.J., Martin J., McPherson C.A., Daniel A ** A bifunctional enzyme, with separate xylanase glucanase domains, encoded by the xynD gene of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical SEQUENCE 7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Science
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                                                                                                                                                                                                                                                                                                                                               MEDLINE=93259938; PubMed=8491715;
                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ruminococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ruminococcus flavefaciens
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  SIMILARITY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY:
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5; Conservative
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739 AA:
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ITY: TO M.JANNASCHII MJ1155.
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71.4%;
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1; Mismatches
HYDROLASES)
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                      SECTION;
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No.
                                                                                                                                                                                             DOMAINS
                                                                      1,4-BETA-D-GLYCOSIDIC LINKAGES AND 1,4-BONDS.
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                                                                                                                                               QF,
                                                                                                                                                                                                                                                                                                                      Daniel A.S.,
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                         BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             group; Clostridiaceae;
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Ruminococcus
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pfam; pF00457; Glyco_hydro_11; 1.

pfam; pF00457; Glyco_hydro_16; 1.

pfam; pF00727; Glyco_hydro_16; 1.

pRINTS; pR00737; GLHYDRLASE16.

pRINTS; pR00931; GLHYDRLASE11

pROSITE; pS00776; GLYCOSYL_HYDROL_F11_1; 1.

pROSITE; pS00777; GLYCOSYL_HYDROL_F16; 1.

pROSITE; pS01034; GLYCOSYL_HYDROL_F16; 1.
YE68_METJA
Q58863;
Q1-OCT-2000
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InterPro; IPR001137;
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P23904; 1AJK.
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21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
PHOSPHOLIPASE A2, BETA BUNGAROTOXIN A1 CHAIN (EC 3.1
(PHOSPHATIDYLCHOLINE 2-ACYLHYDROLASE),
Bungarus multicinctus (Many-banded krait).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                        SEQUENCE, AND REVISIONS TO 85-87 AND 109.
MEDLINE=82239269; PubMed=7096304;
MEDDINE=82239269; PubMed=7096304;
MEDLINE=82239269; PubMed=7096304;
MEDLINE=82239269; PubMed=7096304;
MEDLINE=8223069; PubMed=7096304;
MEDLINE=8223069304;
MEDLINE=822306304;
MEDLINE=8223069304;
MEDLINE=82230693
                                                                                                                                                                                                             "Amino acid sequences of the two polypeptide chains i bungarotoxin from the venom of Bungarus multicinctus. J. Blochem. 83:101-115(1978).
                                                                                                                                                                                                                                                                                                                                                                                          Lepidosauria; Squamata;
Elapidae; Bungarinae; Bu
NCBI_TaxID=8616;
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MEDLINE=79088714;
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OF PHOSPHOLIPASE; PubMed=730754;
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21-JUL-1986 (Rel. 01, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
PHOSPHOLIPASE A2, BETA BUNGAROTOXIN A3 CHAIN
(PHOSPHATIDYLCHOLINE 2-ACYLHYDROLASE).
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                        Elapidae; Bungarinae;
NCBI_TaxID=8616;
                                                                Bungarus multicinctus
Eukaryota; Metazoa; Ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHARACTERIZATION OF PRESYNAPTIC MEDLINE-78043174; Pubmed-303565;
                                                      Lepidosauria;
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Presynaptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00118;
PROSITE; PS00119;
Hydrolase; Lipid (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00068; phoslip; 1.
PRINTS; PR00389; PHPHLIPASEA2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Isolation and characterization of presynaptically acting neurotoxins from the venom of Bungarus snakes.";
Eur. J. Biochem. 80:1-12(1977).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Abe T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kondo K., Toda H., Na "Characterization of
                                                                                                                                                                                                                                                17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         om Bungarus multicinctus venom. II. 1 sidue of betal-bungarotoxin modified Blochem. 84:1301-1308(1978).
                                                                                                                                                                                                                                                                         \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATALYTIC ACTIVITY: PHOSPHATIDYLCHOLINE + H(2)0 = 1-ACYLGLYCERYL-PHOSPHOCHOLINE + A FATTY ACID ANION.

SUBUNIT: DIMER OF DISSIMILAR CHAINS LINKED BY ONE OR MORE DISCUFIDE BONDS. THE A CHAINS HAVE PHOSPHOLIPASE A2 ACTIVITY AND THE B CHAINS SHOW HOMOLOGY WITH THE BASIC PROTEASE INHIBITORS. THE A1 CHAIN IS FOUND IN BETA-1 AND BETA-2 BURGAROTOXINS.

MISCELLANBOUS: LD(50) IS 0.019 MG/KG BY INTRAPERITONEAL INJECTION IN BETA-1 BUNGAROTOXIN AND 0.028 MG/KG IN BETA-2.

SIMILARITY: BELONGS TO THE PHOSPHOLIPASE A2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: INHIBITS NEUROMÚSCULAR TRANSMISSION BY BLOCKING ACETYLCHOLINE RELEASE FROM THE MERVE TERMINI. ACT PRESYNA FUNCTION: PA2 CATALYZES THE CALCIUM-DEPENDENT HYDROLYSIS 2-ACYL GROUPS IN 3-SN-PHOSPHOGLYCERIDES.

CATALYTIC ACTIVITY: PHOSPHATIDYLCHOLINE + H(2)0 = 1-ACYLG
                                                                                                                                                                                                                                                                         KTWGQY 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A00757; PSKFAU.
                                                                                                                                                                                                                                                KTWGEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P15445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alema S., Miledi R.
                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                   meurotoxin.

48
48
94
15
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27
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29
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100
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93
61
86
79
94
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89
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                                                                                                                                                                                                                                                                                                    Conservative
                                                     Squamata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1A3F
                                                                                                                                                                                                                                                                                                                                                                       A,
                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PA2_HIS; 1.
PA2_ASP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Narita
                                                               Chordata; Craniata;
                                                                                                                                                                                                                                                                                                                                                                      13489
                                                                                                                                                                                                                                                                                                                  62.1%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phospholipase
                                                                             (Many-banded krait)
                                                   Scleroglossa; Serpentes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>~</u>
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BY SIMILARITY.
INTERCHAIN (WITH A
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                     ۳.
                                                                                                                                                                                                                                                                                                                 Score 36; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Calcium;
                                                                                                                                                                                                                                                                                                                                                                      -> V (IN 20%).
CE6544CE62CA12C2 CRC64;
                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NEUROTOXINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     e A activity of betal-bungarotoxin II. Identification of the histidine ified by p-bromophenacyl bromide.";
                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                  DВ
27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Multigene
                                                                Vertebrata; Euteleostomi;
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                                                                                                          CEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                АВ
                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                            Length 120;
                                                     Colubroidea;
                                                                                                          3.1.1.4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   family; Venom;
                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY BLOCKING ACT PRESYNAPTICALLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN) (PROBABLE).
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PA22_BUNMU
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Best Local
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                                                                                                                                                                                                       21-JUL-1986 (Rel. (
01-NOV-1990 (Rel. 1
15-JUL-1999 (Rel. 1
PHOSPHOLIPASE A2, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Presynaptic |
ACT_SITE |
ACT_SITE |
ACT_SITE |
DISULFID |
Danse J.M., Toussaint J.L., Kempf J.;
"Nucleotide sequence encoding beta-bungarotoxin
venom glands of Bungarus multicinctus.";
Nucleic Acids Res. 18:4609-4609(1990).
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CA_BIND.
SEQUENCE
                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata;
Lepidosauria; Squamata; Scleroglossa; S
Elapidae; Bungarinae; Bungarus.
                                                                                                                                                                            21-JUL-1986 (Rel. 01, Created)
01-NOV-1990 (Rel. 16, Last sequence up
15-JUL-1999 (Rel. 38, Last annotation
16-SUGLIPASE A2, BETA BUNGAROTOXIN A2
(PHOSPHATIDYLCHOLINE 2-ACYLHYDROLASE).
Bungarus multicinctus (Many-banded kra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Awnio K., Toda H., Narita K., Lee C.-Y.;
"Amino acid sequences of three beta bungarotoxins (beta 3-, and beta 5-bungarotoxins) from Bungarus multicinctus venom. acid substitutions in the A chains.";
J. Blochem. 91:1531-1548(1982).
                                                                   SEQUENCE FROM N.A.
TISSUE=Venom gland;
MEDLINE=90356416; PubMed=2388842;
                                                                                                                                                                                                                                                               P00618
                                                                                                                                                                                                                                                                            PA22_BUNMU
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HSSP; P15445; 1A3F.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-Venom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00389; PHPHLIPASEA2
PROSITE; PS00118; PA2_HIS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00068;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=82239270; PubMed=7096305;
                                                                                                                                                                                                                                                                                                                                               17 KTWGEY
                                                                                                                                                                                                                                                                                                                                                                        1 KTWGQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACETYLCHOLINE RELEASE FROM THE NERVE TERMINI. ACT PRESYNAPTICALLY
FUNCTION: PA2 CATALYZES THE CALCIUM DEPENDENT HYDROLYSIS OF THE
2-ACYL GROUPS IN 3-SN-PHOSPHOGIZCERIDES.
CATALYTIC ACTIVITY: PHOSPHATIDYLCHOLINE + H(2)O = 1-ACYLGLYCERYL-
PHOSPHOCHOLINE + A FATTY ACID ANION.
SUBUNIT: DIMER OF DISSIMILAR CHAINS LINKED BY ONE OR MORE
DISCUFFIDE BONDS: THE A CHAINS HAVE PHOSPHOLIPASE AZ ACTIVITY AND
THE B CHAINS SHOW HOMOLOGY WITH THE BASIC PROTEASE INHIBITORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS00119; PA2_ASP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR001211; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lipid degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 neurotoxin.

48 94

18 15

15 115

27 119

29 45

51 93

61 86

79 91

49 49
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                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INHIBITS NEUROMUSCULAR TRANSMISSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phoslip;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE A3 CHAIN IS FOUND IN BETA-5 BUNGAROTOXIN LD(50) IS 0.13 MG/KG BY INTRAPERITONEAL INJECTIONS TO THE PHOSPHOLIPASE A2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13439
                                                                                                                                                                                                                                                                                                                                                                                                                83
                                                                                                                                                                                (Many-banded krait)
                                                                                                                                                                                                                                                                                                                                                                                                              . 3 e;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (WITH A
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                              Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Calcium; Multigene family; Venom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0301BF045AB31770 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                          on update)
A2 CHAIN PRECURSOR (EC 3.1.1.4)
                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                            145 AA
                                                                                                                                                   Serpentes;
                                                                                                                                                                                                                                                                                                                                                                                                              DB
27;
                                                                                                                                                                  Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                           Length 120;
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                                             A2-chain
                                                                                                                                                     Colubroidea;
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ACT PRESYNAPTICALLY.
HYDROLYSIS OF THE
                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN) (PROBABLE).
                                                                                                                                                                  Euteleostomi;
                                              from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      beta 4-,
Amino
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Kondo K.,

MEDLINE=82239270; PubMed=7096305;

Toda H., Narita K., Lee C.-Y.;

SEQUENCE OF 26-145

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RESULT 30
PA24_BUNMU
ID PA24_B
AC. P17934
DT 01-NOV
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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CONFLICT
CONFLICT
SEQUENCE
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ACT_SITE
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DISULFID
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        PA24_BUNMU
P17934;
                                                                                                                                                                                                                                                                      Presynaptic
SIGNAL
                                                                                                                                                                                                                                                                             PRINTS; PRO0389; PHPHLIPASEA2.
PROSITE; PS00118; PA2_HIS; 1.
PROSITE; PS00119; PA2_ASP; 1.
Hydrolase; Lipid degradation; Calcium; Multigene family; Venom; Presynaptic neurotoxin; Signal.
                                                                                                                                                                                                                                                                                                                                              PIR; S10980; PSKFA2.
01-NOV-1990 (Rel. 16, Created)
                                                                                                                                                                                                             DISULFID
                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                       HSSP; P15445; 1A3F
                                                                                                                                                                                                                                                                                                                                                                       or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                     CA_BIND
                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                  Local
                                                          42
                                                                         1 KTWGQY
                                                          KTWGEY
                                                                                                                                                                                                                                                                                                                       PF00068;
                                                                                          Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                IPR001211;
                                                                         6
                                                          47
                                                                                                                                                                                                                                     73
119
                                                                                                                                                                                                                                                                     neurotoxin;
                                                                                          Conservative
                                                                                                                                                   40
52
54
69
76
104
104
128
                                                                                                                                                                                                                                                                                                                      phoslip; 1
                 STANDARD;
                                                                                                                                40
144
70
125
118
111
116
74
92
128
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16296
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                                                                                                                                                                                                                                              73
                                                                                                 62.1%;
83.3%;
                                                                                                                                   MW;
                                                                                                                                INTERCHAIN (WITH A B CHAIN)
BY SIMILARITY.
CS -> Q (IN REF. 2).
N -> Q (IN REF. 2).
E -> D (IN REF. 2).
GS -> SQ (IN REF. 2).
                                                                                          1;
                                                                                                 Score 36; DB 1;
Pred. No. 32;
                                                                                                                                                                                                                                     BY SIMILARITY
BY SIMILARITY
                                                                                                                                                                                                                                                      PHOSPHOLIPASE CHAIN.
                                                                                          Mismatches
                  147
                                                                                                                                                                                                                                                              A2,
                                                                                          0,
                                                                                                         Length 145
                                                                                                                                                                                                                                                              BETA BUNGAROTOXIN
                                                                                                                                                                                                                           CHAIN) (PROBABLE)
                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                collaboration
                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                        1ts
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NUCLEIC ACIDS RES. 18:4610-4610(1990).

11- FUNCTION: INHIBITS NEUROMUSCULAR TRANSMISSION BY BLOCKING ACETYLCHOLINE RELEASE FROM THE NERVE TERMINI. ACT PRESYNAPTICALLY.

12-ACYL GROUPS IN 3-SN-PHOSPHOGLYCERIDES.

13-CATALYTIC ACTIVITY: PHOSPHATIDYLCHOLINE + H(2)O = 1-ACYLGLYCERYL-PHOSPHOCHOLINE + A FATTY ACID ANION.

14-CATALYTIC DIMER OF DISSIMILAR CHAINS LINKED BY ONE OR MORE DISULFIDE BONDS. THE A CHAINS HAVE PHOSPHOLIPASE AZ ACTIVITY AND THE B CHAINS SHOW HOWOLOGY WITH THE BASIC PROTEASE INHIBITORS.

15-SIMILARITY: BELONGS TO THE PHOSPHOLIPASE AZ FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1990 (Rel. 16, Last sequence update)
15.JUL-1999 (Rel. 38, Last annotation update)
PHOSPHOLIPASE A2, BETA BUNGAROTOXIN A4 CHAIN PRECURSOR (EC 3.1.1.4)
(PHOSPHATIDYLCHOLINE 2-ACYLHYDROLASE).
Bungarus multicinctus (Many-banded krait).
Eukaryota; Metazoa; Chordata; Craniatta; Vertebrata; Euteleostomi;
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Elapidae; Bungarinae; Bungarus.
                         ACT_SITE
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                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no rest use by non-profit institutions as its content modified and this statement is not removed. Usage by ar entities requires a license agreement (See http://www.isborsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                    EMBL; X53408; CAA37484.1; PIR; S10982; PSKFA4.
                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Venom gland;
MEDLINE-90356417; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A
SEQUENCE
                                                                                                                                                                                        Presynaptic
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bungarus multicinctus."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Danse J.M., Garnier J.M., Kempf J. "cDNA deduced amino-acid sequence
                CA_BIND
                                                                                                                                                                                                                                   PROSITE; PS00118;
PROSITE; PS00119;
                                                                                                                                                                                                                                                           Pfam; PF00068; phoslip; 1.
PRINTS; PR00389; PHPHLIPASEA2.
                                                                                                                                                                                                                                                                                                      HSSP; P15445; 1A3F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=8616;
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                                                                                                                                                                      neurotoxin;
1 27
28 147
                                                                                                                                                                                                                  Lipid degradation; Calcium; Multigene family; Venom;
 147 AA;
                            119
42
54
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71
78
88
                                                                                                                                                                                                                                PA2_HIS;
PA2_ASP;
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WW;
            BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (WITH I
BY SIMILARITY.
                                                                                                                                                            CHAIN
                                                                                                                                                                        PHOSPHOLIPASE A2, BETA BUNGAROTOXIN A4
20CC4BF63F8CE2B6 CRC64;
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                                                                                                                  W
                                                                                                                  CHAIN) (PROBABLE).
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밁 õ

44 KTWGEY  $\vdash$ KTWGQY

49

Matches Query Match Best Local

Similarity 83. 5; Conservative

62.1%; 83.3%;

Score 36; DB Pred. No. 33; 1; Mismatches

0;

Indels

0,

0

Length 147;

Job time: 322 sec

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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    10
11
11
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                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0 seq length: 2000000000
    protein search, using sw
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Match Length DB
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58
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16.365 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A_Geneseq_0601:*
l: /SIDS8/gcgdata/geneseg/genesegp/AA1980.DAT:*
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AAW70010
AAW54598
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AAR78644
AAW77119
                                                                                                                                            AAW78850
                                                                                                                                                                                                                                                                                                               SUMMARIES
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                                                                                                Melanoma associate
Immunogenic peptid
gp100/Pmel17 synth
PMEL 17 (GP100) pr
Melanoma-associate
Peptide 3 from gp
                 Melanoma associate
Melanoma associate
Tumour antigenic p
Human melanoma pme
                                                                                                                                                                                                                                               Description
[mmunogenic peptid
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AAY31978	85	AAR84208	AAB13727	ω	4	AAW45776	7	16	N				AAB61647				AAB31354	AAY56614	AAY82979	AAY84296	AAY92299	AAY90803	AAB02622	AAY71520	AAB08694	AAB23679	366	4	AAY00715	AAY01753	268	AAY40211	. (
Mouse melanoma ant	MART-1 melanoma an		de fraç	nic pep	ope (	ma	na a	Pmel17 encoded by	me.	Human melanoma ant	Melanoma associate	MART-1 melanoma an		Immunogenic peptid		Immunogenic peptid	ary antige	-Pmel-117	Pmel117	r associa	gp100-Pmel117 anti	Human leukocyte an	$\sim$		Antigenic peptide	otoxic	S H	HLA Class I motif	r ant	Exemplary antigeni	oma-de	cid s	4

## ALIGNMENTS

RESULT
AAW45771
ID AAW4
XX
AC AAW4
XX

AAW45771 standard; peptide;

9 AA

1

antigen; CTL;

Metastatic melanoma; peptide analogue; vaccine; cancer; diagnosis; antigen; CTL; immunogenic; viral disease.

Melanoma associated peptide analogue #2.

22-JUN-1998 AAW45771;

(first entry)

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Claim 4; Figure 1; 47pp; English.
            melanoma
                 Melanoma associated peptide analogues -
                               WPI; 1998-110586/10.
                                          Adema GJ, Figdor CG;
                                                                   11-JUL-1996;
                                                                               08-JUL-1997;
                                                                                             22-JAN-1998
                                                                                                         WO9802538-A1
                                                                                                                    Homo sapiens.
                                                                                                                          Synthetic
                                                      (ALKU ) AKZO NOBEL NV.
                                                                    96EP-0201945
                                                                               97WO-EP03712
                  useful in vaccines against
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Query Match
Best Local Similarity
""" 6 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence represents a specifically claimed example of a novel peptide, which is immunogenic with lymphocytes directed against metastatic melanomas. It is characterised in that it comprises at least a part of the following sequence, where the amino acid at position 2 or 8 is substituted: Lys-Thr-Trp-Gly-Gly-Tyr-Trp-Gly-Cly-Val. Vaccines comprising the peptide, an epitope of the peptide, nucleotide sequence encoding the peptide, or an antigen presenting cell preloaded with the peptide or antibody as above, are useful for cancer, particularly melanoma, treatment. The peptides can also be used to generate antigen reactive tumour infiltrating lymphocytes, which can also be used in vaccines. The peptides can be exploited to elicit native epitope-reactive CTL. Usage of the peptides with improved immunogenicity may contribute to the development of CTL-epitope based vaccines in viral disease and cancer.
                                      infiltrating lymphocytes capable of binding to the melanoma associated antigen can be cultured ex vivo and returned to melanoma particles, and when radiolabelled, they may be used to identify
                                                                                Immunogenic peptides derived from the melanoma associated antigen (See AAR78639-45) may be used in the production of vaccines. Nucleotide sequences encoding the immunogenic peptides may be use as primers and probes in the detection of melanoma cells. Tumour
                                                                                                                                                                                   Melanoma associated antigen gp100 detection of tumours
                                                                                                                                                                                                                            N-PSDB;
                                                                                                                                                                                                                                                                                                                            21-DEC-1994;
16-FEB-1994;
                             tumour deposits.
                                                                                                                                                        Claim 5;
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                                                                                                                                                                                                                                                                       Adema
                                                                                                                                                                                                                                                                                                (ALKU ) AKZO NOBEL NV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Melanoma; antigen; vaccine; immunogen; primer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-JAN-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunogenic peptide of
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                                                                                                                                                       31; 40pp;
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94EP-0200337.
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                                                                                                                                                       English.
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3.4e+05;
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Sequence

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Best Local
                                                                                                                                                                                                                                                                                               Matches
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                                                                   AAW78850 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      response than the native epitope. The epitopes can be used in disease-specific immunogen to protect a mammal against disease particular melanomas. The peptides may also be used to screen a for the presence of an antigen with the same epitope, or with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The peptide epitope AAW77119-W77138 were created for human tumour-specific cytotoxic T lymphocyte response. These peptides are are cysteine- depleted mutants of a native disease-specific CTL epitope. The cysteine- depleted CTL epitopes elicit a stronger or more specific CTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disease specific immunogen \,\, comprises disease specific cytotoxic lymphocyte epitope used to elicit melanoma specific CTL response
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cross-reactive epitope.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JAN-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tyrosinase cytotoxic lymphocyte response;
                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lymphocyte; cysteine-depleted; melanoma
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                                                                                                                                                                                                                                                                                                                      91.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kittlesen D,
                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
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                                                                                                                                                                                                                                                                                                                   Score 53;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 53;
Pred. No.
                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                   3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Slingluff CL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 16;
3.4e+05;
                                                                                                                                                                                                                                                                                                                                             DB 19;
                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            o screen a sample
or with a different
                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                            0;
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RESULT
AAW70010
ID AAW7
XX
AC AAW7
XX
AC AAW7
XX
DT 22-0
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                                                                                                                                                                                                                                                                                               A microparticle preparation (MP) has been developed, consisting of CC microparticles having a diameter of less than 100 mu m. The MP CC comprises: (a) a polymeric matrix (PM) consisting of one or more CC synthetic polymers having a solubility in water of less that 1 mg/l; and CC (b) an expression vector selected from RNA molecules (at least 50% of which are closed circles) or circular plasmid DNA (at least 50% of which are supercoiled). Also described is a MP of at most 20 microns in CC diameter, comprising: (a) a PM; and (b) a NAM comprising an expression CC control sequence operatively linked to a coding sequence, where the CC coding sequence of: (1) a fragment of a naturally-occurring mammalian CC polypeptide at least 7 amino acids in length, having a sequence identical CC to the sequence of: (i) a fragment of a naturally-occurring mammalian CC infectious agent which infects a hammal; (2) a peptide having a length CC and (3) the polypeptide or the peptide linked to a trafficking sequence CC AAW69763 to AAW69765, and AAW78793 to AAW78897 are peptide fragments for CC use in the present invention. The MPs are highly effective vehicles for the delivery of polypucleotides into phagocytic cells. They can be used CC for gene therapy, e.g. for treating genetic diseases, infections or two two courses or for downregulating an immune response.
                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-JAN-1998;
22-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Microparticle; delivery; polymeric matrix; autoantigen; tumour antigen; class II associated peptide; pathogen; gene therapy; genetic disease; infection; downregulation; immune response.
 22-OCT-1998
                                                               AAW70010 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 10; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New preparations of microparticles matrix and nucleic acid comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Curley JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9831398-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                  AAW70010;
                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-427556/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (PANG-) PANGAEA PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PMEL 17 (GP100)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-NOV-1998 (first entry)
                                                                                                                                                                              1 KTWGQYWAV 9
                                                                                                                                            1 ktwgqywqv 9
                                                                                               ភ
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                                                                                                                                                                                                                                                                                               9 AA;
                                                                                                                                                                                                              Conservative
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0003253.
97US-0787547.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein fragment 154-162.
                                                                                                                                                                                                                            91.4%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Langer RS,
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                                                                                                                                                                                                              0
                                                                                                                                                                                                                            Score 53; DB 19;
Pred. No. 3.4e+05;
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                                                                                                                                                                                                              Mismatches

    comprising a synthetic polymer
an expression vector for use in

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lunsford LB;
                                                                                                                                                                                                                                           Length 9
                                                                                                                                                                                                             Indels
                                                                                                                                                                                                           0;
                                                                                                                                                                                                           Gaps
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Query Match
Best Local Similarity
""" hes 8; Conserv
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                                                                                                                                                                                                                                                                                                                     DX AX I
                                                                                  AAW54598
                                                                                                                                                                                                                                                                                                                                                 molecules with antigen presenting cells (APCs) pretreated with actions of the presence of at least 2 incubating the APCs with purified CD8 cells in the presence of at least 2 incubating the APCs with purified CD8 producing antigen specific CTLs. A method for specifically killing target cells in a human patient is also provided which comprises obtaining a fluid sample containing CTLs from a patient, contacting the cytotoxic T cells with APCs pretreated with pre-treatment growth factors, where the APCs comprise class I MHC molecules. The pretreated APCs are incubated with the cytotoxic growth factors, thereby producing activated CTLs which are contacted with a carrier to form a composition. The composition can then be administered to the patient. The activated CTLs can be used for treating cancers, immune disorders, viral infections, AIDS, hepatitis, bacterial infection, fungal infection, compassion can then the composition can be used for treating cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequences shown in AAW70010 to AAW70026 represent peptides derived from melanoma-associated antigen gp100 that can bind to a human leukocyte antigen (HLA), HLA-A2.1. The peptides are used to exemplify the method of invention of producing antigen-specific cytotoxic T cells (CTLs) in vitro. The method comprises contacting immunogenic peptides from an antigen that binds class I major histocompatibility complex (MHC)
                                 AAW54598;
                                                                AAW54598 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Celis E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human leukocyte antigen; HLA; tumour associated antigen; cancer; antigen presenting cell; APC; immunogenic peptide; immune disord viral infection; MIDS; hepatitis; bacterial infection; malaria;
                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 4; Page 62; 104pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              immunogenic peptide(s) from antigen that binds class I major histocompatibility complex molecules with pre-treated antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Production of antigen-specific cytotoxic T cells - by immunogenic peptide(s) from antigen that binds class
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1998-437445/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9833888-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytotoxic T lymphocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (EPIM-) EPIMMUNE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Melanoma-associated antigen gpl00 derived HLA-A2.1 binding peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fungal infection; tuberculosis; melanoma; gp100.
                                                                                                                                                   1 KTWGQYWAV 9
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1 ktwgqywqv 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sette A,
                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                           Conservative
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                                                                peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sidney
                                                                                                                                                                                                                                            91.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTL; major histocompatibility complex; MHC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                  9
                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                            Score 53; DB 19;
Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Southwood
                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŝ
                                                                                                                                                                                                                                                            Length 9;
                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     by incubating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            une disorder;
malaria;
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25-SEP-1998

(first entry)

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RESULT
AAW45777
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                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                The peptides AAW54559-W54809 are examples of peptides to which at least 1 (preferably 2) mannose can be attached to increase their uptake as antigens by antigen-presenting cells. Uptake of agonist mannosylated peptides will increase the T cell response, whereas uptake of antagonist peptides blocks the T cell response. Blocking binding of immunogenic autoantigens can be used in treatment of type I diabetes, rheumatoid arthritis, graft rejection etc., also to induce T-cell non-
                                                                                                          antigen; CTL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
          08-JUL-1997;
                              22-JAN-1998
                                                    W09802538-A1
                                                                                     Synthetic
                                                                                                                    Metastatic melanoma; peptide analogue; vaccine;
                                                                                                                                          Melanoma associated
                                                                                                                                                                22-JUN-1998
                                                                                                                                                                                    AAW45777;
                                                                                                                                                                                                         AAW45777
                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 24; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Increasing uptake and presentation of antigen(s) - by residue(s) to antigen for increasing T cell response, e.g. vaccines against viral infection(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-230631/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drijfhout JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-SEP-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mannose;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide
                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                       responsiveness.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UYLE-)
                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                               7
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                                                                                                                                                                                                                                                              ktwgqywqv
                                                                                                                                                                                                                                                                                                                                                                                   parasites.
                                                                                                                                                                                                                                                                                                        8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIJKSUNIV LEIDEN
                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antigen; antigen-presenting cell; mannosylated peptide; T cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  from
                                                                                                                                                                                                                                                                                                                                                                                            ness. Vaccines containing mannosylated antigen are used to treat infections by, e.g. bacteria, viruses, fungi, helmin
                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Koning F;
                                                                                                          immunogenic; viral disease
                                                                                                                                                                                                                                                               9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97WO-NL00536
          97WO-EP03712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100/Pmel-17
                                                                                                                                                                                                         peptide;
                                                                                                                                         peptide analogue #8
                                                                                                                                                                                                                                                                                                                  91.4%;
88.9%;
                                                                                                                                                                                                          Φ,
                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                  Score
Pred.
                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                  53;
No.
                                                                                                                                                                                                                                                                                                                    3.4e+05;
                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                    cancer; diagnosis;
                                                                                                                                                                                                                                                                                                                            Length 9;
                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adding
useful
                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in,
                                                                                                                                                                                                                                                                                                                                                                                              helminths
                                                                                                                                                                                                                                                                                                        Gaps
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RESULT
AAW45770
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                metastatic melanomas. It is characterised in that it comprises at least a part of the following sequence, where the amino acid at position 2 or 8 is substituted: Lys-Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val. Vaccines comprising the peptide, an epitope of the peptide, nucleotide sequence encoding the peptide, or an antigen presenting cell preloaded with the peptide or antibody as above, are useful for cancer, particularly melanoma, treatment. The peptides can also be used to generate antigen reactive tumour infiltrating lymphocytes, which can also be used in vaccines. The peptides can be exploited to elicit native epitope-reactive CTL. Usage of the peptides with improved immunogenicity may contribute to the development of CTL-epitope based vaccines in viral disease and cancer.
                      melanoma
                                                                                                                                                                                                                                                                                                                                                                                              AAW45770 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 4; Page 35; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Melanoma associated peptide analogues - useful in \operatorname{melanoma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-JUL-1996;
                                  Melanoma associated peptide analogues -
                                                             WPI; 1998-110586/10
                                                                                     Adema GJ,
                                                                                                                                        11-JUL-1996;
                                                                                                                                                                08-JUL-1997;
                                                                                                                                                                                                                  WO9802538-A1
                                                                                                                                                                                                                                                                                                                     Melanoma associated
                                                                                                                                                                                                                                                                                                                                                                        AAW45770;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents a specifically claimed example of a noveleptide, which is immunogenic with lymphocytes directed against metastatic melanomas. It is characterised in that it comprises a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-110586/10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Adema GJ,
                                                                                                               (ALKU ) AKZO NOBEL NV
                                                                                                                                                                                          22-JAN-1998
                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                antigen;
                                                                                                                                                                                                                                                                                            Metastatic melanoma; peptide analogue; vaccine; cancer; diagnosis;
                                                                                                                                                                                                                                                                                                                                               22-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ALKU ) AKZO NOBEL NV
                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KTWGQYWAV 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
8; Conser
                                                                                                                                                                                                                                                                                CTL;
                                                                                    Figdor CG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Figdor CG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ã,
                                                                                                                                                                                                                                                                                 immunogenic;
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                                                                                                                                        96EP-0201945
                                                                                                                                                                  97WO-EP03712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96EP-0201945.
                                                                                                                                                                                                                                                                                                                                                                                                peptide;
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88.9%;
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Pred. No.
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Claim 1; Figure 1; 47pp; English

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RESULF AAY49663 ID AAY4
AC AAY
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Best Local :
The present invention describes sarcoma-associated gene products (I). Agents, specifically sarcoma associated nucleic acids (II) or their expression products that are tunour rejection antigens (TRA), that selectively increase formation of HLA (human leucocyte antigen)/(I) complexes are used for treating cancer, especially sarcoma and carcinoma, in humans and other annimals. Compositions containing autologous cytolytic T cells (CTL), specific for the HLA/(I) complex, are similarly useful, also transformed cells that stimulate such CTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-APR-1998;
27-JUL-1998;
30-OCT-1998;
30-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence represents a specifically claimed example of a novel peptide, which is immunogenic with lymphocytes directed against metastatic melanomas. It is characterised in that it comprises at least a part of the following sequence, where the amino acid at position 2 or 8 is substituted: Lys-Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val. Vaccines comprising the peptide, an epitope of the peptide, nucleotide sequence encoding the peptide, or an antigen presenting cell preloaded with the peptide or antibody as above, are useful for cancer, particularly melanoma, treatment. The peptides can also be used to generate antigen reactive tumour infiltrating lymphocytes, which can also be used in vaccines. The peptides can be exploited to elicit native epitope-reactive CTL. Usage of the peptides with improved immunogenicity may contribute to the development of CTL-epitope based vaccines in viral disease and cancer.
                                                                                                                                                                                                                                                                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            carcinoma;
                                                                                                                                                                                                                                                   Disclosure;
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98US-0122989.
98US-0183706.
98US-0183789.
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antigen precursor; tumour associated nucleic acid;
r; immune response; diagnosis.
                                                                                                                                                                                                                                                   25;
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88.9%;
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                                                                                                                                                                                                                                                                                                      sarcoma-associated gene products,
and preventing cancer -
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                                                                                                                                                                                                                                                   English.
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Pred. No. 3.4e+05;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in vivo. (II) are also used: (i) as source of therapeutic antisense sequences that reduce expression of (II); (ii) for recombinant production of (I); (iii) particularly its fragments, as primers and probes in usual hybridisation and amplification assays, for diagnosis, prognosis and monitoring of tumours, or for measuring binding specificity of HIA molecules or CTL clones; (iv) to identify related sequences; and (v) for generating transgenic animals, e.g. for studyir cancer and immune responses to it. (I) are used to raise specific antibodies (Ab) and therapeutically. Ab are used to diagnose tumours immunoassays, also for delivering drugs, toxins, imaging agents etc. t(I)-expressing cells. ANY49637 to ANY49670 represent exemplary tumour antigenic nearting of the present invention.
                                                                                                                                                                                                               (INRM )
(CNRS )
(INSP )
                                                                                                                                                                                                                                                                                                                                                                                                  Lipopeptide; epitope; cytotoxic T lymphocyte; CTL; lipid; electrical charge; hydrophilicity; vaccine; immune response human immunodeficiency virus; hepatitis B virus; papilloma
                                                                                                                                                                    WPI; 1999-583113/50
                                                                                                                                                                                            Le Gal
                                                                                                                                                                                                                                                              07-APR-1998;
                                                                                                                                                                                                                                                                                     07-APR-1998;
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                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                          melanoma; malaria; parasite.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY53524 standard;
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                               e; CTL; lipid; sp
immune response;
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                                                                                                                                                                                                                                                                                                                                                                                                              spacer;
se; HIV;
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The invention relates to the generation of a lipopeptide comprising at least one auxiliary T epitope, at least one cytotoxic T lymphocyte (CT) epitope and at least one lipid residue with (i) the epitopes and lipid portion and (ii) the epitopes, being separated independently by peptide spacers. These spacers comprise sequences of amino acids which carry an overall electrical charge in neutral media to ensure that the lipopeptide is hydrophilic. The peptides AAY53301-Y53549 represents

peptide carry an

(CTL)

These

epitopes

used

Disclosure;

Page

24;

35pp;

French

vaccines

New lipopeptide containing lipid a separated by peptide spacers that

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and two epitopes, all hydrophilicity, useful

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by peptide spacers

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RESULT 1
        CC AAY45390 to AAY48214 represent specifically claimed immunogenic peptides CC having a human major histocompatibility complex (MHC) Class I (also CC known as human leukocyte antigen (HLA)) binding motif. The immunogenic CC peptides can bind to a specific HLA allele (i.e. HLA a subtypes CC HLA-A2.1, A1, A3.2 or A24.1 or HLA-B or C) and induce a cytotoxic T cell CC response against the antigen from which the peptide is derived. CC Cytotoxic T Jymphocytes (CTLS) which destroy antigen-bearing cells are CC normally induced by an antigen in the form of a peptide fragment bound CC to a HLA molecule, rather than the intact foreign antigen itself, and CC are particularly important in tumour rejection and in fighting viral CC infections. The peptides are therefore useful therapeutically to treat CC or prevent viral infections and cancers in mammals (especially humans) CC e.g. prostate cancer, hepatitis B and C., AIDS, and renal carcinoma. CC They can be administered as vaccines to elicit an immune response in CC cancer, or used to treat chronic or acute conditions. They are also CC useful diagnostically, and can be used to induce a cytotoxic T cell CC response, by contacting a cytotoxic T cell with the peptide e.g. to CC produce CTLs ex vivo for infusion back into a patient. The
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         used in therapeutic or prophylactic compositions and vaccines to induce specific immune responses against human immunodeficiency, hepatitis B or papilloma viruses; p53 of melanoma or the malaria parasite.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EPIM-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                prostate cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human leukocyte antigen; binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunogenic peptide
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                                                                                                                                                                                                                                                                                                                                                             immunogenic peptides with HLA binding motif, diagnosis of cancers and viral diseases
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                                                                                                                                                                                                                                                                                                                            Page 116; 150pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Peptide;
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88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             activation; major histocompatibility con CTL; tumour rejection; viral infection; tis B; hepatitis C; AIDS; renal carcinoma
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3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Grey HM,
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                                                                                                                                                                                                                                                                                                                                                                              useful in treatment
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Southwood
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MHC; HLA;
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RESULT :
                     CC enterocolitica yopEHAOMP or versinia pseudotuberculosis yopEHAOJ; (2) an CC expression vector (EV1) for delivering a heterologous protein into a CC eukaryotic cell, comprising in the 5'-3' direction; (3) a Yersinia or CC mutant Yersinia strain for delivering a heterologous protein into a CC eukaryotic cell, comprising contacting the cell with a Y1 transformed CC with the above vector (Y1-EV1); (4) a method for delivering a CC heterologous protein into a eukaryotic cell, comprising contacting the CC cell with a Y1 transformed with the above vector (Y1-EV1); (5) a method CC inducing an immune response specific for a heterologous protein; (6) CC a method for inducing a cytotoxic T-lymphocyte (CT1) response specific CC for a heterologous protein; (7) a method for determining the efficacy of can antigen vaccination regimen in a subject. Y1 is used to treat a pathological disorder, by providing recombinant Yersinia for the safe delivery of proteins into eukaryotic cells. AAY33147-Y33178 are
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Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                  mutation(s) in effector-encoding gene(s) and deficient in the proof functional effector protein(s). The invention describes (1) a quintuple mutant Yersinia strain, having the designation Yersinia
                                                                                                                                                                                                                                                                                                 This invention describes a novel mutant Yersinia (Y1) strain,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; protein delivery; Yersinia sp.; effector gene; mutant; immune response; cytotoxic T-lymphocyte; CTL; vaccination; trepathological disorder; gp100-Pmel117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human gp100-Pmel117
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                                                                                                                                                                                                                                                                                                                                                          New mutant Yersinia strains useful
                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-540840/45
                                                                                                                                                                                                                                                                                                                                                                                                                     Van Der Bruggen PB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-MAR-1998;
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88.9%;
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3.4e+05;
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treatment;
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Query Match

Local

Similarity

91.4%; 88.9%;

Score 53; DB 20; Pred. No. 3.4e+05;

Length 9,

망 Š

88.9%;

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AAY40123-Y40379 represent epitopes; that are able to activate cytotoxic CC Tymphocytes (CD8+ epitopes), T helper cells (CD4+ epitopes), or CC B epitopes recognized by corresponding antibodies. The epitopes may be CC used in the composition of the invention. The specification describes a CC lipopeptide that has a peptide part derived from mammalian interferon CC gamma (IFN9) and one or more lipophilic parts comprising a linear or CC branched, (un)saturated 4-20C hydrocarbyl chain or a steroid. The CC lipopeptide mimics the activity of IFN9. Compositions comprising the CC lipopeptide are used to treat or prevent any condition that responds CC to IFN9, and as adjuvant for vaccines (particularly those directed against tumors, viral or parasitic infections), to stimulate or CC (re)orient the immune response between types 1 and 2 cytokine profiles. CC Particular applications are treatment of infections (particularly coviral, e.g. acquired immune deficiency syndrome, papilloma (cancer) and CC (particularly of kidney, cutaneous T cells or ovary, chronic myelogenous leukemia or mesothelioma), allergy; and autoimmune
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                                                                                                                                                                                                                                                                                                                                                             New lipopeptide comprising C-terminal interferon-gamma fragment with attached lipophilic groups, used as interferon mimic, e.g. for treat: cancer or virus infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            autoimmune disease.
                                                                                                                                                                                                                                                                                                                              Disclosure; Page 35; 53pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Thiam K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-FEB-1998;
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 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of a human melanoma epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ver Waerde C,
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Query Match

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RESULT AAY01753

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Query Match Best Local

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AAY26867
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Matches 8; Conserv
                                                                                                                              The invention relates to the generation of mixed micelles or microaggregates for inducing an immune response comprise: (a) a first lipopeptide comprising at least one CTL (cytotoxic T-lymphocyte) epitope and at least one lipid unit; and (b) a second lipopeptide comprising at least one HTL (helper T-lymphocyte) epitope and at least one lipid unit different from that of the first lipopeptide. This peptide represents an example of a lipopeptide epitope used in the invention and is derived from a human melanoma protein. The immunogenic lipopeptide micelles are used in vaccines, especially against HTV, hepatitis B virus (HBV), papilloma viruses, p53, melanoma or plasmodium falciparum malaria.
                                                                                                                                                                                                                                                                                                                                                                                                                                containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CNRS ) CNRS CENT NAT RECH SCI. (INRM ) INSERM INST NAT SANTE & RECH MEDICALE. (INSP ) INST PASTEUR LILLE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY26867;
                                                                                                                                                                                                                                                                                                                                                                                                                                Immunogenic lipopeptide micelles - comprising lipopeptides
containing cytotoxic and helper T-lymphocyte epitopes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-349509/30
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                                                                                       Sequence
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Wieruszeski JM;
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Score 53; DB 20; Pred. No..3.4e+05;
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AAY01753 standard;

Peptide; 9 AA

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RESULT 16
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XX AY007
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   leukocyte
allograft
                                Tumour antigen; booster peptide; immune response modulation; allergy; immune response enhancer; tumour cell; tumour rejection antigen; leukocyte antigen-presenting molecule; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antigen. The specification describes a MAGE-3 tumour associated gene. Peptides (AAY01721-25) that bind human leucocyte antigen (HLA) Class molecules can be derived from the MAGE-3 protein. These peptides and autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA Class II, are used to treat MAGE-3 related diseases, particularly controlled to the complex of the com
                                                                                                                                                                               Tumour antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            osteosarcoma;
                                                                                                                                                                                                                                                    12-MAY-1999
                                                                                                                                                                                                                                                                                                                         AAY00715;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    various forms of carcinoma). The peptides are also used to produce specific antibodies. Detection of of the peptides, e.g. in binding assays, particularly with antibodies, is used for diagnosis of such
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         particularly cancers (e.g. melanoma, osteosarcoma,
various forms of carcinoma). The peptides are also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 29;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Exemplary antigenic peptide
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                                                                                                                                                                                                                                                                                                                                                                                           AAY00715 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents an exemplary tumour associated peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isolated peptides
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Pred.
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              enhance the immune response against tumour cells expressing tumour rejection antigens, and against pathogens in subjects having human leukocyte antigen-presenting molecules. Method (B) is used to reduce the immune response in allergy, autoimmune disease, and allograft rejection. Method (A) provides an immunisation method which, unlike prior art, is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              against antigen, e.g. enhancing immusexpressing tumour rejection antigens {\bf r}
                                                                                                          Synthetic
                                                                                                                                                                                      Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic immunisation; tumour; infectious disease; immunotherapy;
                                                                                                                                                                                                                                                                         HLA Class I motif peptide SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                          AAY10449;
                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY10449 standard; Peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   an immune response; and (ii) administering at least one booster dose comprising a peptide including the antigen, in an adjuvant, in a combir amount effective to enhance the initial immune response; or (B) reducing an immune response as defined for (A) but using a non-adjuvant with the peptide which includes the antigen, in an amount effective to reduce the initial immune response. Method (A) is used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure;
                                                                           Homo sapiens
                                                                                                                                                            malignant melanoma; viral disease; hepatitis; AIDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a nucleic acid molecule encoding the antigen or its precursor to generate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunization methods using viruses expressing antigen for priming and booster immunizations - useful for modulating immune response
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(A) inducing an immune response by: (i) administering
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88.9%;
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Pred. No. 3.4e
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Best Local Similarity
Matches 8; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       induce an immunological CTL response in the minimal; and the level of the antigen in the mammal's lymphatic system to maintain the immunologic CTL response. The method can be used for the delivery of e.g. a differentiation antigen, a tumour specific multilineage antigen, an embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene antigen, or a viral antigen. They can be used for the treatment of disease such as cancer, e.g. malignant melanoma or infectious disease, e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery to the lymphatic system provides for potent CTL stimulation that the milieu of the lymphold organ, and it sustains stimulation that is necessary to keep CTL active, cytotoxic and recirculating through the body. AAY10071 to AAY10639 represent examples of peptide antigens given in the present invention.
                                                                                                                                                                                                Microparticle; nucleic acid delive major histocompatibility complex;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention describes a method of inducing and/or sustaining an immunological cytotoxic T lymphocyte (CTL) response in a mammal. The method comprises: (a) delivering an antigen to the mammal at a level to induce an immunological CTL response in the mammal; and (b) maintaining
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Inducing a cytotoxic T lymphocyte response - by maintaining a level of antigen in the lymphatic system of a mammal so as to provide a sustained CTL response, used to treat, e.g. AIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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                              11-MAR-1999;
27-MAY-1999;
                                                                                                                                        WO200053161-A2
                                                                                                                                                                      Unidentified
                                                                                                                                                                                                                                             MHC class I associated immunogenic peptide SEQ
                                                                                                                                                                                                                                                                                                             AAB33662;
                                                                                                                                                                                                                                                                                                                                          AAB33662 standard; Peptide;
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10-JUL-1997;
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(ZYCO-) ZYCOS
                                                                           10-MAR-2000;
                                                                                                                                                                                                                                                                               26-JAN-2001
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| ktwgqywqv 9
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                                                                                                                                                                                                nucleic acid delivery; immunogenic peptide; MHC I; MHC patibility complex; vaginal tissue; mucosal tissue..
                              99US-0266463
99US-0321346
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97CA-2209815
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88.9%;
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Pred. No. 3.4e+05;
0; Mismatches 1
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Best Local Similarity
Matches 8; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            encapsulated in a liposome and does not comprise a cell. The nucleotide sequence encodes an expression product that binds to major histocompatibility complex (MHC) type I or II molecules. Peptides AAB33602-B33647 represent MHC class II associated immunogenic peptides, and AAB33648-B33710 represent MHC class I associated immunogenic peptides. The peptides are examples of the expression products of the nucleotide sequences which can be included in the microparticles of the invention. Sequences AAB33711-B33716 represent alternative expression products and nuclear localisation signals also used in the invention. The invention of the invention signals also used in the invention. The products are useful for administering a nucleic acid into the mucosal tissue preferably vaginal tissue of an animal.
                                                                                                                                                                                                                                                                                                                                                                              Cytotoxic T lymphocyte (CTL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to microparticles which are less than microns in diameter, which comprise a polymeric matrix, a lipid and nucleic acid molecule. The microparticle is specifically not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Microparticles useful for administering a nucleic acid into the mucosal tissue preferably vaginal tissue of an animal, comprises a polymeric matrix, a lipid and a nucleic acid molecule -
                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                        cytostatic;
                                                                                                                                                                                                                                                                                                                                  ATPase; Hsp70; heat shock protein; cytotoxic T lymphocyte; immune response; infectious disease; malaria; cytotoxic T
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                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB23679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB23679 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                                                                               WO200049041-A1
                                                                                                                                                                                                                                                                                                         protozoacide;
                                                                                                                             (SUME ) SUMITOMO ELECTRIC IND
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                                                                                                                                                                                                                                                                                                                      immunostimulant; cellular immune response
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                                                                                                                                                                                       2000WO-JP00941.
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                                                                                                 Udono H,
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                                                                                                                                                                                                                                                                                                         leukaemia; cancer.
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Pred. No. 3.4e+05;
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Fused protein capable of inducing cellular immune response, useful active ingredient for drug compositions in preventing and/or treat: infectious diseases such as malaria or cancer -

as

peptide containing a CTL (cytotoxic T lymphocyte) eritorytotoxic T cells and a protein cytotoxic Totals and a protein cytoto

Claim

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Page 58;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EphA3;
CD4+ T
leukocyte antigen) class II-binding peptide. EphA3 antigens, when presented by an antigen presenting cell having a HLA class II molecule, effectively induce activation and proliferation of CD4+ T lymphocytes. EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used for selectively enriching a population of T lymphocytes. The peptides are also used for diagnosing a disorder characterized by EphA3 or EphA3
                                                                                                                                              Disclosure; Page
                                                                                                                                                                                                                              Novel
                                                                                                                                                                                                                                                                                                                                                         22-FEB-1999;
08-OCT-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Antigenic peptide
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                                                                                                 The peptides may be combined in
                                                                                                               AAB08668-B08704 represent antigenic peptides characteristic
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                                                                                                                                                                                                                                                            2000-572089/53.
                                                                                                                                                                                           tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) II binding peptide and nucleic acid encoding the receptor, usef iagnosing and treating conditions characterized by expression of
                                                                                                                                                                                                                                                                                          ,7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HLA class II-binding peptide; human leukocyte antigen; antigen; lymphocyte; tumour associated gene; vaccine.
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8; Conser
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99US-0158566.
                                                                                                                                                35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             from tumour rejection antigen gp100(Pmel117).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein of
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Pred. No. 3.4e
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                                                                                                vaccines with a human EphA3 HLA (human
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Matches 8
                                                               The patent discloses MAGE-A10 and MAGE-A8 polypeptide, nonapeptide and decapeptide sequences, that function as tumour rejection antigens (TRAs). These peptides are capable of forming a complex with major histocompatibility complex (MHC) molecule type HLA-A2.1 (Human Leucocyte Antigen), that are recognised by T-lymphocytes and elicit an immune response from cytolytic T-lymphocytes (CTL). They function as an immune response stimulator. Tumour rejection antigens are useful in prophylaxis, therapy and diagnosis of tumours and are effective in controlling or preventing tumour growth. The present sequence is the human gp100 Pmel117 nonapeptide-1, that corresponds to residues 154-162 of the tumour associated gene, gp100 Pmel117 encoding protein. It can be administered to induce or enhance an immune response and is presented by HLA-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gp100 Pmel117; human; Tumour Rejection Antigen; TRA; tumour; cancer; HLA; Human Leucocyte Antigen; MHC; Major Histocompatibility Complex; cytolytic T-lymphocyte; immune response stimulator; prophylaxis; the diagnosis; TNF; tumour necrosis factor; vaccine; cytostatic.
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                                                                                                                                                                                                                                                              Disclosure;
                                                                                                                                                                                                                                                                                       Novel polypeptides expressed in tumor cells useful for treating cancers have an ability to complex with a major histocompatibility complex molecule and comprises a specific unbroken amino acid sequence -
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                            variety
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                        This peptide can serve as a cumve- This peptide can serve as a cumve- raction with adjuvants, can produce vaccines
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                                                                                                                                                                                                                                                             Page 20;
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                                                                                                                                                                                                                                                              English.
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                                                      oonse and is presented by HLA-A2 a tumour rejection antigen (TRA
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EphA3 binding pepti
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~hultz ES,
~n C;
                                                                                                                                                    to create antibodies against the MAGE-A3 peptides, the antibodies, peptides and nucleotide sequences can be used to create a vaccine. The peptides are used to diagnose or treat a disorder characterized by expression of MAGE-3, particularly cancer. The methods can also be used in the diagnosis of disorders associated with MAGE-3 expression. Included in the invention are other human tumour antigens (see AAB302596-B02637), and PCR primers used in the course of the invention (see AAA37929-A37937).
                                                                                                                                                                                                                                              The present invention relates to MAGE-A3 (tumour associated gene product) human leukocyte antigen (HLA) class II-binding peptides (see AAB02566-B02595, and AAB02633-B02637). These peptides are presented to T cells in the context of HLA class II molecules. The peptides stimulate the activity and proliferation of CD4+ T lymphocytes. The invention also includes nucleotide sequences encoding MAGE-3A peptides (see AAA37928 and AAA37938-A37940). The peptides and nucleotide sequences can be used
                                                                                                                                                                                                                                                                                                                                                                                   New MAGE-A3 class II binding peptides, useful to diagnose and treat tumours, are fragments of MAGE-A3 which bind to and are presented to lymphocytes by human leukocyte antigen class II molecules -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LUDW-)
(UYVR-)
                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 33; 119pp; English.
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| ktwgqywqv 9
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                                                                                                                                           PCR primers used AAA37941-A37942).
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3, Van Snick
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                                                   Conservative
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88.9%;
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J, Lethe B, Thielemans K, Corthals
                                                 Score 53; DB Pred. No. 3.4e 0; Mismatches
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RESULT 23
AAY90803
ID AAY908
RESULT 2
AAY92299
ID AAY9
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AC AAY9
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                peptides of the invention can be used to generate immune responses, preferably in humans, but also in non-human animals to generated immune components which can then be used to treat humans or diagnostically. Therapeutically, the peptides are useful in generation of cytolytic T cells either in vitro or in vivo which specifically lyse pathogenic cells. The peptides can also be used to identify HIA-B35 positive cells, or to remove HIA-B25 positive cells from mixtures containing such cells. Nucleic acid molecules encoding the peptides can be used inter alia as probes to identify cells which are expressing tyrosinase. The present sequence represents an HIA binding peptide used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    isolated peptides, sometimes derived from tyrosinase, which bind to HLA-B35 leading to recognition and lysis of the resulting complexes cytolytic T cells -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes isolated peptides which bind to human leukocyte antigen (HLA)-B35 molecules leading to recognition and lysis of the resulting complexes by cytolytic T cells. The isolated peptides are sometimes derived from tyrosinase. Compositions comprising the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human leukocyte antigen; HLA-B35; cytolytic T cell; tyrosinase; immu identification; human.
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                                      AAY92299;
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             10-AUG-2000
                                                               AAY92299
                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                      1 KTWGQYWAV 9
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8; Conser
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and lysis
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gp100-Pmell17 antigenic

peptide epitope (residues 154-162).

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Best Local 9
                                                                                                                                                                                                                                    A novel method of isolation of cytotoxic T-lymphocytes (CTL) clones comprises successive steps of stimulation and testing of lymphocytes with antigen presenting cells (APCs) which present antigens derived from different expression systems. The CTL clones isolated recognize specific antigenic peptides of proteins, preferably of the MAGE family. The APC is autologous and each expression systems is different from at least one of the other expression systems, therefore isolating a cytotoxic T cell clone specific for the protein. The method can also be used to identify an antigenic peptide epitope. Isolated CTL clones specific for a peptide/human leukocyte antigen (HIA) complex are claimed. The CTL cells specific for the complexes, peptides or cells which present the complexes on the cell surface are useful for treating pathological conditions characterized by abnormal expression of the complexes.
          12-JUL-2000
                                 AAY84296;
                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                       Isolation of cytotoxic T-lymphocytes clones by successive steps of stimulation and testing of lymphocytes with antigen presenting cel which present antigens derived from different expression systems
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
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09-APR-1999;
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                                                                                                                                                                                                                  Sequence
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                                                     AAY84296 standard;
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DUFFOUR M.
LURQUIN C.
TRAVERSARI C.
STROOBANT V.
CORNELIS G R.
BOON-FALLEUR T.
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V, Cornelis
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; HLA.
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                                                                                                                                                           Score 53; DB Pred. No. 3.4e 0; Mismatches
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3.4e+05;
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    treatment;
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GnT-V; MUM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated polypeptide used to treat subjects having a disorder characterized by expression of alternative open reading frame macrophage-colony stimulating factor comprises 25 amino acid sequence -
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                                                                           Tumour; tumour
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       antibody;
MUM; CDK4;
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                                                   probe;
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                                                                                                                                                                  (first entry)
associated antigen; retrovirus; antisense;
be; primer; HLA; cytotoxic T-lymphocyte; cancer;
dy; CTL; helper T-lymphocyte; MAGE; BAGE; GAGE; RAGE;
K4; beta catenin; tyrosinase; Melan-A; gp100; PRAME.
                                                                                                                       tumour associated antigen
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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RESULT
AAY56614
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the interaction. A disorder can also be treated by administering CC an agent that enriches the presence of HLA and HERV-AVI3-B ERTRA CC or by administering autologous cytotoxic T-cells sufficient to ameliorate the disorder. Fragments of the HERV-AVI3-B coding sequence are useful as probes or amplification primers for determining the CC expression of HERV-AVI3-B genes, to express tumor associated polypeptides in vivo and in vitro and to prepare fragments of such CC polypeptides to synthesize antibodies. Antigenic peptides of such CC polypeptides to synthesize antibodies. Antigenic peptides of such CC HERV-AVI3-B can be useful for generating antibodies either alone or as fusion proteins, as components of immunoassay and for determining the binding specificity of HLA molecules and/or cytotoxic T the binding specificity of HERV-AVI3-B proteins. Peptides derived from CC the HERV-AVI3-B coding sequence and which are presented by MHC CC molecules and recognised by CTL or helper T-lymphocytes can be combined with peptides from other tumour rejection antigens by preparation of hybrid nucleic acids or polypeptides to produce polytopes. This exemplary tumour associated peptide antigen corresponds to amino acids 154-162 of the gpl00(pmell17) polypeptide.
                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a disorder characterized by the expression of the HERV-AVL3-B endogenous retrovirus tumor rejection antigen (ERTRA) can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tumors, especially melanomas) can be treated or ameliorated by administering antisense nucleic acid to reduce the expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumor associated disorders (e.g. endogenous retrovirus mediated tumors, especially melanomas) can be treated or ameliorated by
HLA-A*0201; human leukocyte antigen; cytolytic T cell; CTL; tumour; Melan-A; peripheral blood lymphocyte; PBL; immune complex; melanoma MHC molecule; beta2-microglobulin; cytotoxic T lymphocyte; vaccine;
                                                                       gp100-Pmel-117 gene MHC molecule HLA-A2 peptide SEQ ID NO:30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diagnosed or monitored by contacting a non-testis biological sample with an agent that binds to the complex and determining
                                                                                                                                                    AAY56614;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel nucleic acids encoding melahoma associated gene products and their fragments and variants, useful for treating endogenous retro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coulie P,
                                                                                                                21-FEB-2000
                                                                                                                                                                                   AAY56614 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumour associated genes such as HERV-AVL3-B. Progression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-JUL-1998;
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                                                                                                                                                                                                                                                                                                 1 KTWGQYWAV 9
                                                                                                                                                                                                                                                                                ktwgqywqv 9
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8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                especially melanomas
                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                       91.4%;
88.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77pp; English.
                                                                                                                                                                                                                                                                                                                                                      Score 53; DB Pred. No. 3.4e 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                       DB 21;
3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                          Length 9;
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                   melanoma
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes an isolated complex (A) comprising: (i) first and second binding partners (BP1, BP2); and (ii) several immune complexes (IC) containing a major histocompatibility complex (MHC) molecule (1), a beta2-microglobulin molecule (b2MG) and a peptide (II) that binds specifically to (I). (A) are used for analysis of cytolytic T cells (CTL) for characterisation of an immune response to tumours or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immune response; cancer; tyrosinase; tumour rejection antigen;
major histocompatibility complex.
                                         MAGE-Al; HLA; human leukocyte antigen; CD4+ T lymphocyte; MAGE-Al HLA class II-binding protein; vaccine.
                                                                                                                   20-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated complex of binding partners and immune complexes containing major histocompatibility molecules and peptide, us isolate and detect cytotoxic T cells, particularly directed a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09950637-A2
                                                                                     Exemplary antigen characteristic of tumours, derived from
                                                                                                                                                 AAB31354;
                                                                                                                                                                               AAB31354 standard;
                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-MAR-1999;
                                                                                                                                                                                                            28
                                                                                                                                                                                                                                                                        1 KTWGQYWAV 9
                                                                                                                                                                                                                                                        1 ktwgqywqv 9
                                                                                                                                                                                                                                                                                                                 Similarity 88.9
8; Conservative
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                                                                                                                   (first entry)
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                                                                                                                                                                            peptide;
                                                                                                                                                                                                                                                                                                                                91.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English
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                                                                                                                                                                                                                                                                                                                                Score 53;
Pred. No.
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                                                                                                                                                                                                                                                                                                                   Mismatches
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                                                                                                                                                                                                                                                                                                                                              DB
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                                                                                                                                                                                                                                                                                                                                               21;
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                                                                                   gp100.
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1 against
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RESULT
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of tumours. They can be used to enhance the immune response of vaccines comprising peptides derived from human MAGE-A1 HLA (human leukocyte antigen) class II-binding protein. Peptides derived from the MAGE-A1 HLA binding protein stimulate the activity and proliferation of CD4+ T lymphocytes. The MAGE-A1 HLA binding protein is useful as a diagnostic agent for diagnosing a disorder characterized by expression of MAGE-A1. The protein is used for treating a disorder characterized by expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of MAGE-Al such as cancers e.g. melanomal, squamous cell carcinomas, colorectal carcinomas, osteosarcomas, and lymphocytic leukemias. Peptides derived from the MAGE-Al HLA binding protein are useful in production of anti-tumour vaccines.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel MAGE-Al human leukocyte antigen class II peptides which bind to and are presented to the class II molecules, useful for inducing immune response and treating cancers characterized by expression of MAGE-Al -
           Adema
                                                         21-DEC-1994;
16-FEB-1994;
                                                                                                                     23-AUG-1995
                                                                                                                                             EP668350-A1
                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                       22-JAN-1996
                                                                                                                                                                                                                                                                               AAR78643;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 33; 78pp; English.
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                                                                                             14-FEB-1995;
                                                                                                                                                                                                       Melanoma; antigen;
                                                                                                                                                                                                                                                                                                       AAR78643 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB31302-59 represent exemplary antigens which are characteristic
                                  (ALKU ) AKZO NOBEL NV
                                                                                                                                                                                             identification;
                                                                                                                                                                                                                            Immunogenic peptide
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                                                                                                                                                                                                                                                                                                                                                                ktwgqywqv
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           g,
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                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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           Figdor CG;
                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                         94EP-0203709
94EP-0200337
                                                                                             95EP-0200348
                                                                                                                                                                                           tumour;
                                                                                                                                                                                                        vaccine;
                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       æ
                                                                                                                                                                                                                             of melanoma associated antigen gp100
                                                                                                                                                                                                                                                                                                                                                                                                                              88
88
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                                                                                                                                                                                           gp100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chaux P,
                                                                                                                                                                                                       immunogen;
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Pred.
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                                                                                                                                                                                                       primer; probe; detection;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 9;
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RESULT 3
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Best Local Similarity
Matches 8; Conserv
                  melanoma antigen derivative of gp100 (see AAR84855). The peptide and its derivatives (see AAR84200-R84211) are used medicaments (vaccines) for the treatment or prevention (by
                                                                                                        DNA encoding melanoma antigens recognised by T-lymphocytes - also vectors, host cells and antibodies, used to detect, treat and immunise animal against melanoma.
                                         The immunogenic peptide is derived from cDNA25 (AAR84854), melanoma antigen derivative of gp100 (see AAR84855). The
                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                  gp100; melanoma antigen recognised by T-cells; MART; melanoma;
metastatic melanoma; tumour-associated antigen;
immunogenic peptide; diagnosis; prognosis; prophylaxis;
                                                                                                                                                                                                                                                                                                                                                                                                                                    gp100 melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR84209 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (See AAR78639-45) may be used in the production of vaccines. Nucleotide sequences encoding the immunogenic peptides may be usual primers and probes in the detection of melanoma cells. Tumour infiltrating lymphocytes capable of binding to the melanoma associated antigen can be cultured ex vivo and returned to melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 5; Page 31; 40pp; English.
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                                                                                  Claim
                                                                                                                                                           WPI; 1995-382963/49
                                                                                                                                                                                                                                   05-APR-1995;
22-APR-1994;
                                                                                                                                                                                                                                                                                                02-NOV-1995
                                                                                                                                                                                  Kawakami Y,
                                                                                                                                                                                                           (USSH ) US SEC
                                                                                                                                                                                                                                                                                                                        WO9529193-A2
                                                                                                                                                                                                                                                                                                                                                                        therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-APR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR84209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumour deposits.
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          .mmunization)
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                                                                                  Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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          O.t
                                                                                                                                                                                                            DEPT HEALTH
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                                                                                 131; 184pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    antigen
         melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91.4%;
88.9%;
                                                                                                                                                                                    SA;
                                                                                                                                                                                                                                                                                                                                                                                                                                   immunogenic peptide
                                                                               English
         Antibodies against melanoma-specific
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immunogenic

peptides

may

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CC detection and isolation of the antigen from a sample, the CC detection of which is indicative of a disease state CC (melanoma or metastatic melanoma).

XX

SQ Sequence 10 AA;

Query Match
Best Local Similarity 88.9%; Pred. No. 0.013;
Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 KTWGOYWAV 9
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Search completed: July 3, 2001, 10:23:58

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Copyright (c) 1993 - 2000 Compugen Ltd
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## ALIGNMENTS

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Best Local
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Q9DWY8;
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                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE=97061201; PubMed=8905231;
MEDLINE=97061201; PubMed=8905231;
Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Miyajima N., Hirosawa M., Sugiura M., Nakazaki N., Naruo K., Okumura S.,
Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumura S.,
Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M.,
Tabata S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence up
01-JUN-2000 (TrEMBLrel. 14, Last annotation
01-JUN-2000 (TrEMBLrel. 14, Last annotation
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Bacteria; Cyanobacteria; Chroococcales; Synechocystis
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                 PRELIMINARY;
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Pred. No. 12;
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SEQUENCE
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Submitted (NOV-1996) to ti
EMBL; U77932; AAC32040.1;
HSSP; P00787; 1THE.
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Smythe M.L., Mcmanus D.P.;
"Proteolytic degradation of I
Mol. Biochem. Parasitol. 89:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus.
Viruses; dsDNA viruses,
Papillomavirus.
                                                                                                                                                   PRINTS; PR00705; PAPAIN.

PROSITE; PS00139; THIOL_PROTEASE_CYS; PROSITE; PS00639; THIOL_PROTEASE_HIS; Hydrolase; Signal; Thiol protease.
                                                                                                                                                                                                                                 InterPro; IPR000668; -.
Pfam; PF00112; Peptidase_C1;
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Submitted (OCT-2000) to the EMBL/Ge
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01-MAR-2001 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                     InterPro; IPR000169; -. InterPro; IPR000668; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97442731; PubMed=9297696;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=6182;
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Trematoda; Digenea;
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RECURSOR (EC 3.4.14.1).
um (Blood fluke).
Platyhelminthes; Rhabditophora;
Strigeidida; Schistosomatoidea;
                   69.5%;
83.3%;
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Score 41; DB Pred. No. 55; 1; Mismatches
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Best Local :
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01-MAR-2001
01-MAR-2001
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                                                                                                                                                                                                                                  STRAIN-EL TOR N16961 / SEROTYPE 01;

MEDLING-20406833; PubMed=10952301;

Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.,

Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Umayam L.A.,

Gill S.R., Nelson K.E., Read T.D., Tettelin H., Richardson D.,

Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Sellers P.,

McDonald L., Utterback T., Fleishmann R.D., Nierman W.C., White O.,

Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.J., Venter J.C.,

Fraser C.M.;
                                                                                                        Nature 406:477-483(2000).
EMBL; AE004294; AAF95373.1;
TIGR; VC2229; -.
SEQUENCE 281 AA; 31824 MP
                                                                                                                                                                                            "DNA sequence cholerae.";
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01-OCT-2000
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01-OCT-2000
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Viruses; dsDNA viruses,
Papillomavirus.
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Bacteria; Proteobacteria;
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Query Match Best Local S Matches 5

Similarity 5; Conserv

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Q45818;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2001
                                                                                           P74474;
01-FEB-1997
01-FEB-1997
01-OCT-2000
01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation updat.)
0-ALANYL-D-ALANINE CARBOXYPEPTIDASE.
5LR1924.
Synechocystis sp. (strain PCC 6803).
Synechocystis sp. (strain PCC 6803).
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Hypothetical protein.
SEQUENCE __305 AA; 3367
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Bacteria; Green non-sulfur bacteria;
Chloroflexaceae; Chloroflexus.
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Xiong J., Fischer W.M., Inoue K.,
"Molecular evidence for the early
Science 289:1724-1730(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=94192803; PubMed=75115
Niedermeier G., Shiozawa J., I
"The primary structure of two
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AF288602; AAG15233.1;
Pro; IPR000537; -.
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(TIEMBLrel. 01, Last sequence up
(TIEMBLrel. 16, Last annotation
L 33.7 KDA PROTEIN (BCHGC).
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f two chlorosome proteins from Chloroflexus
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Pred. No
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EMBL; D90915; BAA18575.1; -.
MEROPS; S12.001; -.
Carboxypeptidase.
SEQUENCE 400 AA; 44316 MW: 7****
               007068;
01-JUL-1997
01-JUL-1997
01-MAR-2001
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01-NOV-1998
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Bertoni G., Martino M., Galli E., Barbi
Bertani G., Martino M., Galli E., Barbi
"Analysis of the gene cluster encoding
from Pseudomonas stutzeri OX1.";
Appl. Environ. Microbiol. 64:3626-3632(
EMBL, AJ005663; CAA06654.1;
InterPro, IPR003430;
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MEDLINE-97061201; PubMed-8905231;

Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakar

Kaneko T., Sato S., Kotani H., Tanaka A., Asamoto S., Kinura T.

Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kinura T.

Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K.,

Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Ya
01-JUL-1997 (TrEMBLrel. 04, Create 01-JUL-1997 (TrEMBLrel. 04, Last s 01-MAR-2001 (TrEMBLrel. 16, Last s 01-MAR-2001 (TrEMBLrel. 16, Last s TOLUENE-3-MONOOXYGENASE OXYGENASE
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SEQUENCE 498 AA;
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Q9RK89;
Q1-MAY-2000
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NON_TER
SEQUENCE
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Redenbach M., Kieser H.M., Denapaite D., Eichner A Kinashi H., Hopwood D.A.;
"A set of ordered cosmids and a detailed genetic a the 8 Mb Streptomyces coelicolor A3(2) chromosome. Mol. Microbiol. 21:77-99(1996).
EMBL; ALII7322; CAB55535.1; -.
EMBL; ALII7322; CAB55535.1; -.
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01-MAY-2000 (TYEMBLIEL. 13, Last
01-MAR-2001 (TYEMBLIEL. 16, Last
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Seeger K.J.,
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Science 286:1571-1577(1999).
EMBL; AE001895; AAF09930.1; -.
TIGR; DR0348; -.
  InterPro; IPRO
Pfam; PF00528;
                                    Crenarchaeon, Aeropyrum pernix DNA Res. 6:83-101(1999).
                                                          Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haik
Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A.
Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa
Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y
Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K
Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
"Complete genome sequence of an aerobic hyper-thermophil
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InterPro;
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                      DNA Res. 6:83-101(1999).
EMBL; AP000064; BAA81265.1;
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Archaea; Crenarchaeota;
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Bacteria; Thermus/Deinococcus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=10567266;
.A., Heidelberg J.F.,
.D.H., Gwinn M.L., Ne
                                                                                                                                                                                                                                                                                                                                                                                                                                          66.1%;
83.3%;
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13,
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12, Last sequence update)
16, Last annotation update)
LACTOSE TRANSPORT SYSTEM PERMEASE
                                                                                                                                                                                                                       Desulfurococcales;
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Last annotation updat
S PROTEIN, HEME EXPORT
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57;
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                                                           hyper-thermophilic
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                                                                                                                        Ankai A.,
                                                                                                                                      Haikawa
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HSSP; P06278; 1...
InterPro; IPR000461; -.
Pfam; PF00128; alpha-amylase; 1.
Pfam; PF00128; alpha-amylase; 1.
Pfam; PF00128; alpha-amylase; 1.
                                                                                                                                   002622;
01-JUL-1997
01-JUL-1997
01-OCT-2000
                                                                            Crassostrea gigas (Pacific oyster)
Eukaryota; Metazoa; Mollusca; Biva.
Ostreoidae; Ostreidae; Crassostrea
NCBI_TaxID-29159;
                                                                                                                01-JUL-1997 (TrEMBLrel: 04, Created)
01-JUL-1997 (TrEMBLrel: 04, Last sequence update)
01-CT-2000 (TrEMBLrel: 15, Last annotation update)
ALPHA-AMYLASE PRECURSOR (EC 3.2.1.1) (1,4-ALPHA-D-GLUCAN
GLUCANOHYDROLASE) (GLYCOGENASE) (FRAGMENT).
       Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
1- CATALYTIC ACTIVITY: ENDORYDROLYSIS OF 1.4-ALPHA-GLUCOSIDIC LINKAGES IN OLIGOSACCHARIDES AND POLYASACCHARIDES.
EMBL; Y08370; CAA69658.1; -.
                                                                                                                                                                                                                                                                                                            01-OCT-2000
AMYLASE (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                050200
                                      Moal J., Dar
Samain J.F.;
                                                                                                                                                                   002622
                                                                                                                                                                                                                                                                                                                                                                                                                  AMYLASE (EC 3.2.1. GLUCANOHYDROLASE)
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                                                     SEQUENCE FROM N.A.
TISSUE-DIGESTIVE GLAND;
                                                                                                                                                                                                                                                                                                                                                             STRAIN=RT3;
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                  Archaea; Euryarchaeota;
NCBI_TaxID=65421;
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5; Conserv
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                                              Daniel J.Y.,
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(TIEMBLrel. 06, Last sequence update)
(TIEMBLrel. 15, Last annotation update)
3.2.1.1) (ALPHA-AMYLASE) (1,4-ALPHA-D-GLUCAN
                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                   PRELIMINARY;
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                                                                                    Mollusca; Bivalvia;
ae; Crassostrea.
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71.48;
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55.6%;
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                                               Moine
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Pred. No. 1.26
1; Mismatches
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Pred. No. 67;
2; Mismatches
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                                              Sellos
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1.2e+02;
                                                                                           Pteriomorphia; Ostreoida;
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                                              Wormhoudt
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SEQUENCE
Fragaria ananassa (Strawberry).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
Rosales; Rosaceae; Fragaria.
NCBI_TaxID=3747;
                                                                     EXP1
                                                                              01-NOV-1999 (TrembLrel.
01-MAY-2000 (TrembLrel.
01-MAR-2001 (TrembLrel.
EXPANSIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                         NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             EMBL; D88415; BAA21109.1; ...
Mendel; 24197; Goshi;1201;24197.
InterPro; IPR000882; ...
Pfam; PF01357; Pollen_allergen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EXPANSIN (FRAGMENT).
Gossypium hirsutum (Uplandesypium)
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00128; alpha-amylase;
PRINTS; PR00110; ALPHAAMYLASE.
Signal; Hydrolase; Glycosidase
NON_TER 1 1
SIGNAL 1 18
P
                                                                                                                                                  Q9XGR7
                                                                                                                                                                                                                                                                                                                                                                                                                                  "Changes in levels of mRNAs for cell cotton fiber cells.";
Plant Cell Physiol. 38:375-378(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-COKER312; TISSUE-COTTON FIBER; MEDLINE-97294938; PubMed-9150611; Shimizu Y.; Aotsuka S., Hasegawa O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Magnoliophyta; eudicotyledons;
Malvales; Malvaceae; Gossypium
NCBI_TaxID=3635;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JAN-1998 (TrEMBLrel.
01-JAN-1998 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
                                                                                                                                    Q9XGR7;
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                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01225; EXPANSNFAMLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hayashi T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               023952;
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5; Conserv
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                                                                                                                                                 PRELIMINARY;
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57435 MW;
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62.5%;
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71.4%;
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Embryophyta;
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Last sequence Last annotation
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1; Mismatches
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2F3864914E7278AC CRC64;
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1.3e+02;
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Best Local S
Matches 5
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NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                          "Acid-growth response and alpha-expansins bright yellow 2 tobacco."; plant physiol. 118:907-916(1998). EMBL; AF049355; AAC96082.1; ... mendel; 35959; Nicta;1201;35959.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nicotiana tabacum (Common tobacco).
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; core euc
Solanales; Solanaceae; Nicotiana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
ALPHA-EXPANSIN PRECURSOR (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-CV. CHANDLER;
Rose J.K.C., Lee H.H., Benner
Submitted (JAN-2000) to the 1
EMBL; AF163812; AAD44345.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-CV. CHANDLER;
MEDLINE-97303239; PubMed-9159182;
MEDLINE-97303239; Pubmed-9159182;
                                                                                                                                                                                                                                   Pfam; PF01357; Pollen_allergen; 1.
PRINTS; PR01225; EXPANSNFAMLX.
NON_TER 1 1
SEQUENCE 169 AA; 19000 MW; 312
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Pfam; Pr01357; Pollen_allergen;
PRINTS; PR01225; EXPANSNFAMLY.
ProDom; PD002179; -; 1.
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Rose J.K.C., Lee H.H.,
Submitted (JUN-1999) t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Expression of a divergent expansin gene is fruit-specific and ripaning-regulated.";

Proc. Natl. Acad. Sci. U.S.A. 94:5955-5960(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Link B.M., Cosgrove D.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99026292; PubMed=9808735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=CV.
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                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=4097;
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KTWGQYWQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RNWGQNWQ 167
                                                                 Similarity
5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                IPR000882;
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167
                                                                    Conservative
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to the EMBL/GenBank/DDBJ databases
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62
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Pred.
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                                                             ced. No. 58;
Mismatches
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dicots; Asteridae; euasterids
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Q9EW89;
01-MAR-2001 (TrEMBLrel. 1
01-MAR-2001 (TrEMBLrel. 1
01-MAR-2001 (TrEMBLrel. 1
BETA-XYLANASE (EC 3.2.1.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN-CV. WEST VIRGINIA 106; TISSUE-FRUIT;
Lemaire-Chamley M., Petit J., Causse M., Raymond P., Che
"Isolation and characterization of cDNAs expressed durin
development of tomato fruit by mRNA differential display
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ270960; CAB65894.1; -.
                                                                    STRAIN=E-86;
Zhang H., Yao B., Wang Y.;
Cloning and expression of the 23kD
Streptomyces olivaceoviridis E-86.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lycopersicon esculentum (Tomato).

Lycopersicon esculentum (Tomato).

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Eukaryota; Viridiplantae; Embryophyta; Asteridae; euasterids
EMBL; AJ292317; CAC19491.1;
Xylan degradation; Hydrolase;
NON TER 1
SEQUENCE 191 AA; 20781 MW;
                                                                                                                                                                                                                                                        Streptomyces olivaceoviridis (Streptomyces corchorusii). Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000882; -.
Pfam; PF01357; Pollen_allergen;
PRINTS; PR01225; EXPANSNFAMLY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Magnoliophyta; eudicotyledons; Solanales; Solanaceae; Solanum
                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                  SEQUENCE FROM
                                                                                                                                                                                                                            NCBI_TaxID=1921;
                                                                                                                                                                                                                                           Actinomycetales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=4081;
                                                                                                                                                                                                                                                                                                                                                                                                                                       163 RNWGQNWQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KIWGQYWQ
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                                          tted (DEC-2000) to the EMBL/GenBank/DDBJ AJ292317; CAC19491.1; -.
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                                                                                                                                                       (DEC-2000)
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170 AA;
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                                                                                                                                                                                                                                           Streptomycineae;
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18538
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13,
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(FRAGMENT).
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Last sequence update)
Last annotation update)
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                             Glycosidase
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                                                                                                                                                                                                                                                                                                                                                                     PRT;
7E1C45AADE1B6B9C
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                                                                                                                                                                                                                                           Streptomycetaceae;
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Best Local S
Matches 6
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Best Local :
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Q59962;
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spe
Magnoliophyta; eudicotyledons; core eudicots; Asteridae;
euasterids II; Asterales; Asteraceae; Asteroideae; Heli?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9LLB3;
            EMBL;
                                                                                                 Streptomyces sp.
Bacteria; Firmicutes;
Actinomycetales; Strep
NCBI_TaxID=1931;
                                                                                                                                                         01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
ENDO-1,4-BETA-XYLANASE (
                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-20317189; pubmed-10859177;
Im K.H., Cosgrove D.J., Jones A.M.;
"Subcellular localization of expansin
Plant Physiol. 123:463-470(2000).
EMBL; AF230331; AAF35900.1;
Interpro; IPR000882; -.
Pfam; PF01357; Pollen_allergen; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. MEDLINE-20317189;
                                                                                                                                                                                                                                                                                                                                                  PRINTS; PRO1225; EXPANSNFAMLY.
NON_TER 1 1
SEQUENCE 203 AA; 22692 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EXPANSIN (FRAGMENT).
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01-MAR-2001
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                                                            Georis
                                                                     STRAIN-S38
                                                                              SEQUENCE FROM N.A.
                                                                                                                                                 XYLANOHYDROLASE).
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                                                   Submitted
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                                                                                                                                                                                                                                                                               1 KTWGQYWQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
mitted (JUN-1996) to the EMBL/GenBank/DDBJ databases. CATALATIC ACTIVITY: ENDOHYDROLYSIS OF 1,4-BETA-D-XYLOSIDIC LINKGES IN XYLANS. LIKY 898518; CAA67143.1; -. P; P09850; IXNB. EAPPro; IPR001137; -.
                                                                                                                                                                                                                                                           RNWGQNWQ 158
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                                                                                                                                                                                                                                                                                                  Similarity 5; Conserv
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                                                            .C.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
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                                                                                                          stes; Actinobacteria; Actinobacteridae;
Streptomycineae; Streptomycetaceae; Streptomyces.
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66.78;
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, Last annotation update)
3.2.1.8) (1,4-BETA-D-XYLAN
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Pred.
1; Mis
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                                                                                                                                                                                       Created)
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                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                   7DC08C7DE9795C16 CRC64;
                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                           38;
No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203
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                                                                                                                                                                                                                                                                                                                     Length 203;
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RESULT
P93492
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Best Local
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                                                                                                                                                                                                                                                                                                                                                    TISSUE-HYPOCOTYL;
HUtchison K.W., Singer P.B., Diaz.
Hutchison K.W., Singer P.B., Diaz.
Submitted (JUL-1996) to the EMBL/(
EMBL; U64890; AAB40634.1; -
Mendel; 12160; Pinta; 1201; 12160.
InterPro; IPR000882; -
Pfam; PF01357; Pollen_allergen; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1997
01-MAY-1997
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00457; Glyco_hydro_11; 1.

PRINTS; PR00911; GLHYDRLASE11.

PROSITE; PS00776; GLYCOSYL_HYDROL_F11_1; 1.

PROSITE; PS00777; GLYCOSYL_HYDROL_F11_2; 1.

Xylan degradation; Hydrolase; Glycosidase.

CHAIN

39

228

ENDO-1,4-BETA-XYLANASE.

CHAIN

39

228

ENDO-1,4-BETA-XYLANASE.
                                                                                                                                                                                                                                                                                                            NON_TER
SEQUENCE
Hutchison K.W., Singer P.B., Submitted (JUL-1996) to the I Submitted Habalo S.I; -. EMBL; U64891; AABAlO S.I; -. Mendel; 12161; Pinta; 1201; 121
                                                                    Eukaryota; Viridiplantae; E
Coniferopsida; Coniferales;
NCBI_TaxID=3352;
                                                                                                            01-MAY-1997 (TrEMBLrel.
01-MAY-1997 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
EXPANSIN (FRAGMENT)).
                                                                                                                                                                                                                                                                                                                                                                                                                                               Pinus taeda (Loblolly pine).
Eukaryota; Viridiplantae; Embryophyta; Trach
Coniferopsida; Coniferales; Pinaceae; Pinus.
NCBI_TaxID-3352;
                                                                                                                                            P93493;
01-MAY-1997
                                                                                                                                                                                                                                                                                                                                  PRINTS; PR01225; PRINTS; PR00829;
                                        TISSUE=HYPOCOTYL;
                                                 SEQUENCE FROM
                                                                                                    Pinus taeda
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EXPANSIN (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P93492
                                                                                                                                                                 P93493
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                                                                                                                                                                                                                  182 RNWGQNWQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                      1 KTWGQYWQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6; Conserv
                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                              232 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel.
                                                                                                                                                                                                                                                           Conservative
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                                                                                                    (Loblolly pine).
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                                                                                                                                                                PRELIMINARY;
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                                                 N.A.
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  Pinta; 1201; 12161
                                                                                                                                                                                                                                                                                                                                  LOLP1ALLERGN
                                                                                                                                                                                                                                                                                                                                            EXPANSNFAMLY
                                                                                                                                                                                                                                                                                                              24734 MW;
                                                                                                                                                                                                                                                                   64.48;
62.58;
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                                                                                                                       03,
16,
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16,
                                                                               Embryophyta;
s; Pinaceae; F
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Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                              Diaz-Sala C., GreenBank/DDBJ
                    EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence update)
Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 38;
Pred. No.
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Pred. No.
                                Diaz-Sala
                                                                                                                                                                PRT; .
                                                                                                                                                                                                                                                                                                              1340AF483DE0741F CRC64;
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                                                                                Pinus.
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81;
                                                                                         Tracheophyta; Spermatophyta;
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DBJ databases.
                                Greenwood
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                               M.S.;
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Best Local Similarity
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                                                                                                                                                                                                                                                                          P93495 PRELIMINARY;
P93495;
01-MAY-1997 (TIEMBLIEL (
01-MAY-1997 (TIEMBLIEL (
01-MAR-2001 (TIEMBLIEL )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1997
01-MAY-1997
01-MAR-2001
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Pfam; PF01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hutchison K.W., Singer P.B., Diaz-Sala C., Gre Submitted (JUI-1996) to the EMBL/GenBank/DDBJ EMBL; U64892; Anab(636.1; -. Mendel; 12162; Pinta;1201;12162. InterPro; FR000882; -. Ffam; PF01257; POllen_allergen; 1. Pfam; PF01257; EXPANSNFAMLY. PRINTS; PR01225; EXPANSNFAMLY. PRINTS; PR01225; LXPANSNFAMLY. PRINTS; PR00829; LOLPIALLERGN.
               Hutchison K.W., Singer P.B., Diaz-Sala C., Gre Submitted (JUL-1996) to the EMBL/GenBank/DDBJ EMBL, U64893; AA840637.1; -.
Mendel; 12163; Pinta;1201;12163.
                                                                                                       TISSUE-HYPOCOTYL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pinus taeda (Loblolly pine).
Eukaryota; Viridiplantae; Embryophyta; Tracl
Coniferopsida; Coniferales; Pinaceae; Pinus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR01225; EXPANSNFAMLY.
PRINTS; PR00829; LOLP1ALLERGN.
NON_TER 1
                                                                                                                                                                                           Coniferopsida; Coniferales;
                                                                                                                                                                                                            Pinus taeda (Loblolly pine).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
                                                                                                                                                                                                                                    EXPANSIN (FRAGMENT)
Pinus taeda (Loblol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P93494
                                                                                                                                                                     NCBI_TaxID=3352;
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                                                                                                                         SEQUENCE FROM N.A.
  nterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24681 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24745 MW;
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                                                                                                                                                                                           Pinaceae;
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annotation update)
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                                                           Greenwood M.:
)BJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                               M.S.;
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                                                                                                                                                                                                            Spermatophyta
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Best Local
                                                                                                01-MAY-1999
01-MAR-2001
EXPANSIN PRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q38863 PRELIMINARY; PRT; 237 AA.
Q38863;
Q1-NOV-1996 (TrEMBLrel. 01, Created)
Q1-NOV-1996 (TrEMBLrel. 01, Last sequence update)
Q1-MAR-2001 (TrEMBLrel. 16, Last annotation update)
EXPANSIN ATEX1 (FRAGMENT).
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Sp
Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                             NON_TER
SEQUENCE
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MEDLINE=96016146; PubMed=7568110;

MEDLINE=96016146; PubMed=7568110;

Shicherban T.Y., Shi J., Durachko D.M., Guilt

McQueen-Mason S.J., Shieh M., Cosgrove D.J.;

Molecular cloning and sequence analysis of

conserved, multigene family of proteins that

extension in plants.";

Proc. Natl. Acad. Sci. U.S.A. 92:9245-9249(1)
 SEQUENCE FROM N.A. STRAIN=CV. 91347;
                                           Lycopersicon esculentum (Tomato).
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; core euc
Solanales; Solanaceae; Solanum.
                                                                                        EXP5.
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PRINTS; PRO0829; LOLPIALLERGN
NON_TER 1 1
SEQUENCE 232 AA; 24694 MW;
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                                NCBI_TaxID=4081;
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                                                      ta; Tracheophyta; Spe
eudicots; Asteridae;
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01-OCT-2000 (
01-MAR-2001 (
EXPANSIN 3.
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SEQUENCE
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EMBL; AF059489; AAD13633.1; EMBL; AF059489; AAD13633.1; Mende; 36058; Lyces;1201;36058.
                                                                                                                                                                                                                                                        Im K.H., Cosgrove D.J., Jones A.M.;

"Subcellular localization of expansin Plant Physiol. 123:463-470(2000).

EMBL, AF230333; AAF35902.1;

InterPro; IPR000882;

Pfam; PF01357; Pollen_allergen; 1.
           EXPANSIN 2.
Zinnia elegans
                                                                                                                                                                                                                          PRINTS; PR01225; EXPANSNFAMLY.
ProDom; PD002179; -; 1.
SEQUENCE 242 AA; 26157 MW;
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                                                                                                                                                                                                                                                                                                                                                                                               Zinnia elegans.
Eukaryota; Viridiplantae;
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
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euasterids II;
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239 AA;
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eudicotyledons; core eudicots; Asteridae;
Asterales; Asteraceae; Asteroideae; Heliantheae;
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Matches 5; Conserv
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Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databemBL; AJ291816; CAC19183.1;
SEQUENCE 245 AA; 26469 Mu.
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Eukaryota; Viridiplantae; Embryophyta; Trachec
Magnoliophyta; eudicotyledons; core eudicots;
Fabales; Fabaceae; Papilionoideae; Cicer.
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NCBI_TaxID=34245;
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SEQUENCE 245 AA; 26201 MW; 1
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"Subcellular localization of expansin"
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Q60696 mus musculu
Q98917 gallus gall
P25044 saccharomyc
P76463 escherichia
   P176463
P176315
P56315
P56370
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Q88894
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PAAG_ECOLI	VG37_BPOX2	VG37_BPM1	XYNC_STRLI	PA24_BUNMU	PA22_BUNMU	PA23_BUNMU	PA21_BUNMU	FA5_HUMAN	FA5_BOVIN	POL_HV2BE	POL_HV2D1
P77467 escherichia	P08232 bacteriopha		P26220 streptomyce								

## ALIGNMENTS

RA R	R R R R R R R R R R R R R R R R R R R	R R R R R R R R R R R R R R R R R R R	RN RX RT RT	RA R	17
SEQUENCE FROM N.A. SEQUENCE FROM N.A. KAMPAN B.S., KAMPAN K., Heng H.H., Shi X.M., Tsui L., Lee Z.H., Youn B., Pickard R.T. Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases. [6] [6] [7] [8] SEQUENCE FROM N.A. Vogel A.; Submitted (NOV-1990) to the EMBL/GenBank/DDBJ databases.	J. Invest. Dermatol. 106:24-2/(1996). [4] [5] SEQUENCE FROM N.A., AND SEQUENCE OF 25-53. MEDLINE-94235165; PubMed-8179825; Maresh G.A., Marken J.S., Neubauer M., Aruffo A., Hellstroem I., Hellstroem K.E., Marquardt H.; "Cloning and expression of the gene for the melanoma-associated ME20 antigen."; DNA Cell Biol. 13:87-95(1994).	J. BIOI. Chem. 269:20126-20133(1994).  [3] SEQUENCE FROM N.A. MEDILINE-96154052; PubMed-8592076; Bailin T., Lee S.T., Spritz R.A.; "Genomic organization and sequence of D12S53E (Pmel 17), the human homologue of the mouse silver (si) locus.";	NCE FROM N.A. NE=94327568; PubMed=7519602; G.J., de Boer A.J., Vogel A.M., cular characterization of the mel	SEQUENCE FROM N.A.  SEQUENCE FROM N.A.  MEDLINE=92021023; PubMed=1924386;  KWON B.S., Chintamaneni C., Kozak C.A., Copeland N.G.,  KWON B.S., Chintamaneni C., Kozak C.A., Copeland N.G.,  Gilbert D.J., Jenkins N.A., Barton D., Francke U., Kobayashi Y.,  Kim KK.;  "A melanocyte-specific gene, Pmel 17, maps near the silver coat color locus on mouse chromosome 10 and is in a syntenic region on human chromosome 12.";  Proc. Natl. Acad. Sci. U.S.A. 88:9228-9232(1991).	LT 1    MIAN   STANDARD; PRT; 661 AA.   PM17_HUMAN   STANDARD; PRT; 661 AA.   P40967; Q16565; Q14817; Q12763; Q14448;   Q1-FEB-1995 (Rel. 31, Created)   Q1-FEB-1995 (Rel. 31, Created)   Q1-OCT-2000 (Rel. 40, Last annotation update)   Q1-OCT-2000 (Rel. 40, Last annotation update)   MELANOCYTE PROTEIN PMEL 17 PRECURSOR (MELANOCYTE LINEAGE-SPECIFIC ANTIGEN GP100) (MELANOMA-ASSOCIATED MEZO ANTIGEN) (ME20M/ME20S)   (ME20-M/ME20-S) (95 KDA MELANOCYTE-SPECIFIC SECRETED GLYCOPROTEIN).   SILV OR PMEL17 OR D12553E.   Homo saplens (Human).   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.   NCBI_TaxID=9606;

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Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                       between the Swiss Institute of Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: COULD BE A MELANOGENIC ENZYME. COULD REPRESENT AN ONCOFETAL SELF-ANTIGEN THAT IS NORMALLY EXPRESSED AT LOW LEVELS QUIESCENT ADULT MELANOCYTES BUT OVEREXPERSED BY PROLIFERATING NEONATAL MELANOCYTES AND DURING TUMOR GROWTH. RELEASE OF THE SOLUBLE FORM, MEZO-S, COULD PROTECT TUMOR CELLS FROM ANTIBODY
                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE PMEL-17, SIMILARITY: CONTAINS 1 PKD DOMAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN (POTENTIAL). THERE IS ALSO A SECRETED SOLUBLE FORM, MEZO-S, PROBABLY PRODUCT OF
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U01874;
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U31807;
U31797;
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M32295;
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S73003;
U31799;
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 Similarity
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AAC60634.1; -.
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G-> GG (IN REF. 4).

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CYTOPLASMIC (POTENTIAL).
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EXTRACELLULAR (POTENTIAL)
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Q1-NOV-1997
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REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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01-NOV-1997 (Rel. 35, Last sequence up.
01-CCT-2000 (Rel. 40, Last annotation.
MELANOCYTE PROTEIN PMEL 17 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Mouse silver mutation is caused by putative cytoplasmic domain of Pmel Nucleic Acids Res. 23:154-158(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-C57BL/6; TISSUE-Skin;
MEDLINE-95175358; PubMed-7870580;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SILV OR PMEL17 OR D1 Mus musculus (Mouse)
                                                                                                   REPEAT
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                                                                                                                                                                                                                                                                                                                                EMBL; U14133; AAA69538.1;
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                                                                                                                 REPEAT
                                                                                                                                                                                                                                                                                              [ransmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                        between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: COULD BE A MELANOGENÍC ENZYME.

SUBCELLULAR LOCATION: TYPE I MEMBRAME PROTEIN (POTENTIAL).

TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN MELANOCYTES.

DISEASE: DEFECTS IN PMEL17 ARE THE CAUSE OF THE SILVER COAT
WHICH SEEMS TO BE DUE TO PREMATURE DEATH OF PIGMENT CELLS DU
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                    MGI:98301;
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CYTOPLASMIC (POTENTIAL).
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                                                                                                                                                                             PKD.
7 x 13 aa approximate tandem repeats
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                        Signal;
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                                                                                                                                                                        or send an
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-WHITE LEGHORN; TISSUE-Retinal pigment epithelium; MEDLINE-88311098; PubMed-3409326;
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[2]
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                                                                                                                             EMBL; D88348;
                                                                PROSITE;
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                                                                                                                                                                                                                                                        s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Exercise Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: MIGHT BE REQUIRED FOR POLYMERIZATION OF MELANIN ONTO THE CORE STRUCTURE OF MELANOSOMES WITH ENZYMIC FUNCTION OF TYROSINASE. SUBCELLULAR LOCATION: ON THE FIBROUS MATRIX STRUCTURE OF THE
                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE PMEL-17/NMB FAMILY SIMILARITY: CONTAINS 1 PKD DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                              DEVELOPMENTAL STAGE: PIGMENTED EPITHELIAL
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TISSUE SPECIFICITY:
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8; Conserv
                                        Glycoprotein;
                                                                                                                                                                 and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                        PS50093; PKD; 1.
Glycoprotein; Repeat.
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MATRIX PROTEIN 115 KDA P
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88.9%;
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7AB941D2E3FB1044 CRC64;
MELANOSOMAL MATRIX PROTEIN 115
                      POTENTIAL
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; Galliformes; Phasianidae; Phasianinae;
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                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: IS NOT REQUIRED FOR VEGETATIVE GROWTH.
-i- CATALYTIC ACTIVITY: PROTEIN TYVESINE PHOSPHATE + H(2
- PROTEIN TYROSINE + ORTHOPHOSPHATE.
-i- SUBCELLULAR LOCATION: CYTOPLASMIC.
-i- SIMILARITY: BELONGS TO THE NON-RECEPTOR CLASS OF THE
                                                                                                                                                EMBL; M64062; AAA34923.1;
EMBL; Z74278; CAA98809.1;
PIR; A39862; A39862.
                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. Thuse by non-profit institutions as long modified and this statement is not removed
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Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
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Ol-MAY-1992 (Rel. 22, Last squence update)
Ol-MOV-1997 (Rel. 35, Last annotation update)
PROTEIN-TYROSINE PHOSPHATASE 1 (EC 3.1.3.48)
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NCBI_TaxID=4932;
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Pfam; PF00102; Y\_phosphatase; 1.
PRIATS; PR00700; PRTYPHPHTASE.
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MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A
Riley M., Collado-Vides J., Glasner J.D.,
Riley M., mavis N.W., Kirkpatrick H.A.,
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P16701;
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PIR; A35402; QRECST.
PIR; B35403; B35403.
ECOGene; EG10197; cysU.
InterPro; IPR000515; -.
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                   TRANSMEM TRANSMEM
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                                                                                                            Inner men
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"Construction of a contiguous 874-kb sequence of the Escherich
-K12 genome corresponding to 50.0-68.8 min on the linkage map
analysis of its sequence features.";

DNA Res. 4:91-113(1997).

1- FUNCTION: PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT
-FOR SULFATE AND THIOSULFATE. PROBABLY RESPONSIBLE FOR THE
TRANSLOCATION OF THE SUBSTRATE ACROSS THE MEMBRANE.

-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. INNER MEM
                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-97349980; PubMed-9205837; Yamamoto Y., Alba H., Baba T., Hayashi K., Inada T., Ison Yamamoto Y., Alba H., Baba T., Makino K., Miki T.; Mits Itoh T., Kimura S., Kitagawa M., Makino K., Miki T.; Mits Mizobuchi K., Mori H., Nakade S., Nakamura Y., Nashimoto Oshima T., Oyama S., Saito N., Sampei G., Satoh Y., Sivas Tagami H., Takahashi H., Takeda J., Takemoto K., Uehara K
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STRAIN-K12 / MG1655;
MEDLINE-97426617; PubMed-9278503;
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"Sulfate and thiosulfate transport
nucleotide sequence and expression
J. Bacteriol. 172:3351-3357(1990).
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European Bioinformatics Institute.
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Proc. Natl. Acad. Sci. U.S.A. 94:5967-5972(1997).
-I- FUNCTION: REQUIRED DURING CYTOCHROME BIOGENESIS AT THE STEP HEME ATTACHMENT (BY SIMILARITY).
-I- SIMILARITY: BELONGS TO THE CCMF/CYCK/CCL1/NRFE/CCSA FAMILY.
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                    CYTOCHROME CCSA.
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m SWISS\text{-}PROT} entry is copyright. It is produced through a collaboration een the {
m Swiss} Institute of Bioinformatics and the EMBL outstation -
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30-MAY-2000
30-MAY-2000
30-MAY-2000
                                        Thao M.L., Baumann P.;

Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.

Submitted (MAR-1999) to the CONVERSION OF AMINOIMIDAZOLE RIBOTIDE PUNCTION: INVOLVED IN THE CONVERSION OF AMINOIMIDAZOLE RIBOTIDE (AIR), A PURINE INTERMEDIATE, TO THE 4-AMINO-5-HYDROXYMETHYL-2-METHYL PYRIMIDINE (HMP) MOIETY OF THIAMINE (BY SIMILARITY).

-!- PATHMAY: BIOSYNTHESIS OF THE PYRIMIDINE MOIETY OF THIAMINE.

-!- SIMILARITY: BELONGS TO THE APBE FAMILY.
                                                                                                                                                                                     murE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chloroplast:
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;
              This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR002541; -...
Pfam; PF01578; CytC_asm; 1.
Cytochrome c-type biogenesis;
SEQUENCE 328 AA; 37732 MW;
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Brassicales; Brassicaceae; Arabidopsis
NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                     Buchnera aphidicola (subsp. Bacteria; Proteobacteria; ga
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                                                                                                                                                                      Curr. Microbiol.
                                                                                                                                                                                                   endosymbiont)
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"Sequence analysis of a
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                                                                                                                                             REVISIONS.
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SIMILARITY: BELONGS TO THE CCMF/CYCK/CCL1/NRFE/CCSA FAMILY.
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entry is copyright. It is produced through a collaboration iss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                      37:214-216(1998).
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39, Last sequence update)
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BIOSYNTHESIS PROTEIN APBE PRECURSOR.
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Best Local S
Matches 7
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MEDILINE-94152161; PubMed-8109164;
Buckley B., Silva S., Singh S.;
"Nucleotide sequence and in vitro expression
gene of tobacco ringspot virus.";
Virus Res. 30:335-349(1993).
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Q88894;
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  SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                   x-ray Crystallography (3.5 angstroms).
MEDLINE=98179933; PubMed=9519407;
Chandrasekar V., Johnson J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-DEC 1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence updat
15-DEC-1998 (Rel. 37, Last annotation upo
15-DEC-1998 (Rel. 37, Last annotation upo
COAT PROTEIN PRECURSOR (CAPSID PROTEIN).
Tobacco ringspot virus (Tobrsv) (Trsv).
Viruses; ssRNA positive-strand viruses, r
                                         rotein;
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                                                                                                                                                                                           modified
                                                                                                                                                                                                                                                                                                                                                             Structure
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Buckley B., Silva S., Singh S.;
Virus Res. 35:111-111(1995).
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                                                                                                                                                                                                                                                                                                                                     "The structure of tobacco ringspot virus: a link loosahedral capsids in the picornavirus superfami Structure 6:157-171(1998).
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01-NOV-1997 (
30-MAY-2000 (
HYPOTHETICAL
                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                   "A 718 kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 12.7-28.0 min region on the linkage map.";
DNA Res. 3:137-155(1996).
-i- SUBCELLULAR LOCATION: OUTER MEMBRANE (POTENTIAL).
-i- SIMILARITY: STRONG, TO Y.PESTIS HEMIN-BINDING PROTEIN HMSH.
                                                                                                                                                                                                                                                                                                                                            Oshima T., Aiba H., Baba T., Fujita K., Hayashi K., Honjo A., Ikemoto K., Inada T., Itoh T., Kajihara M., Kanai K., Kashimoto F. Kimura S., Kitagawa M., Makino K., Masuda S., Miki T., Misobuchi Mori H., Motomura K., Nakamura Y., Nashimoto H., Nishio Y., Saitt Samper G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mau B., Shao Y.;
"The complete genome sequence Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-K12 / MG1655;
MEDLINB-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T.,
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Ma
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., R
                                                              SEQUENCE
                                                                                    Hypothetical protein; Outer membrane; SIGNAL 1 26 POTENTIAL
                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Escherichia
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                                                                                                             EcoGene;
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                                                                                                                         D90739;
                                                                                                                                                 AE000204; AAC74109.1; -.
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Mayhew G.F.,
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                Pfam; PF00504; chloroa_b-bind; 2.
Light-harvesting polypeptide; Chloroplast; Photosynthesis;
Photosystem II; Multigene family; Chlorophyll; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isochrysis galbana.
Eukaryota; Haptophyceae;
NCBI_TaxID=37099;
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01-OCT-2000 (Rel. 40, Last annotation update)
FUCOXANTHIN-CHLOROPHYLL A-C BINDING PROTEIN, CHLOROPLAST PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR001344; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X77333; CAA54547.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: THE LHC COMPLEX OF CHROMOPHYTIC ALGAE IS COMPOSED FUCOXANTHIN, CHLOROPHYLL A AND C BOUND NON-COVALENTLY BY FUCOXANTHIN CHLOROPHYLL PROTEINS (FCPS). THE RATIO OF THE
TWGQYW
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CHLOROPLAST (PROBABLE).
FUCOXANTHIN-CHLOROPHYLL
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01-OCT-1989
01-OCT-1989
15-DEC-1998
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01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
POL POLYPROTEIN [CONTAINS: PROTEASE (RETROPEPSIN)
REVERSE TRANSCRIPTASE (EC 2.7.7.49); RIBONUCLEASE
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SEQUENCE
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SEQUENCE FROM N.A.
MEDLINE-89012184; PubMed-3172340;
Daniel M.D., Li Y., Naidu Y.M., Durda
Troup C.D., Silva D.P., Mackey J.J., K
                                                                                        Simian immunodeficiency virus (AGM385 isolate) (SIV-AGM) Viruses; Retroid viruses; Retroviridae; Lentivirus. NCBI_TaxID-11729;
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NCBI_TaxID=2104;
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ANCHOR (POTENTIAL)
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PubMed=8948633;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             794 H
23 N
86871 MW;
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CATION: ATTACHED TO
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66.7%;
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Last sequence up
Last annotation
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HYPOTHETIAL LIPOPROTEIN MPN152.
N-ACYL DIGLYCERIDE (POTENTIAL).
ODA72D12807F53EE CRC64;
                                                                                                                                                                                                                                                                                                                                      PRT;
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  a P.J., Schmidt
Kestler H.W., S
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    Sehgal P.K.,
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3.1.26.4)]
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Best Local S
Matches 5
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Becker J.M.;
                                                                                                                                                                                                                                                                                                                         PT2B_ARATH STANDARD; PRT; 585 AA.
p46032;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
PEPTIDE TRANSPORTER PTR2-B (HISTIDINE TRANSPORTING
PTR2-B OR NTR1 OR ATZG02040 OR F14H20.11.
Arabidopsis thallana (Mouse-ear Cress).
Lin X., Kaul S., Rounsley S.D., Shea T.P., Benito M.F., Town C. Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T. Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H., Moffat Cronin L.A., Shen M., Vanaken S.E., Umayam L., Tallon L.J., Gill
                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NON_TER
                                                                  STRAIN-CV.
                                                                                                               Frommer W.B., Hummel S., Rentsch D.; "Cloning of an Arabidopsis histidine transporting nitrate and peptide transporters.";
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                                                  MEDLINE=20083487; PubMed=10617197;
                                                                            SEQUENCE FROM N.A.
                                                                                                                                                      MEDLINE-94307379; PubMed-8033999
                                                                                                                                                                    STRAIN-CV.
                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                       Submitted
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"Simian immunodeficiency virus from Af
"Sivian icalia" 4128(1988).
J. Virol. 62:4123-4128(1988).
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M21311; POL$AGM38.
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Polyprotein; Hydrolase; Aspartyl protease; En
ase; Transferase; RNA-directed DNA polymerase.
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5; Conservative
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                                                                  COLUMBIA;
                                                                                                   1 peptide transporters.";
347:185-189(1994).
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Pred. No. 10;
0; Mismatches
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from African green monkeys.";
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TO PEPTIDASE FAMILY A2;
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L.J., Gill
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P33919; P36926; P36926; P36926; P36926;
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                                                    Church G.1
Submitted
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SEQUENCE
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between
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-!- FUNCTION: PEDTIDE TRANSPORT. HIGH AFFINITY, LOW CAPACITY TRANSPORTER. CAN ALSO TRANSPORT HISTIDINE.

-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.

-!- SIMILARITY: BELONGS TO THE PTR2 FAMILY OF TRANSPORTERS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Salzberg S.L., Fraser C.M., Venter J. "Sequence and analysis of chromosome thaliana.";
SEQUENCE FROM N.A. STRAIN-K12 / MG1655;
                                                                                 SEQUENCE FROM N.A.
STRAIN=K12 / BHB2600;
Richterich P., Lakey
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Pred.
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                                                                                     Jaehn L.,
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52;
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STRAIN-DSM 2661;
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Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D., Gocayne J.D., Sutton G.G., Blake J.A., Fitzgerald L.M., Clayton R.A., Gocayne J.D., Sutton G.G., Blake J.A., Fitzgerald L.M., Clayton R.A., Gocayne J.D., Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I., Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A., Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D., Scott J.L., Geoghagen N.S.M., Weidman J.D., Sadow P.W., Hanna M.C., Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M., Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C., Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.,
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Pfam; PF00271; helicase_C;
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SUBCELLULAR LOCATION: INTEGRAL MEMISIMILARITY: CONTAINS 5 PKD DOMAINS
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CAUTION: REF.1 SEQUENCE DIFFERS FROM
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MEDLINE-9023731; PubMed=2158689;

Baier M., Garber C., Mueller C., Cichutek K., Kurth R.;

Baier M., Garber C., Mueller C., Cichutek K., Kurth R.;

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01-AUG-1992 (Rel. 23, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
POL POLYPROTEIN [CONTAINS: PROTEASE (RETROPEPSIN)
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                                                       EMBL; M30931; HSSP; P03366;
                                                                                                                                                                                                                             African green monkeys: a novel type of intragr
Virology 176:216-221(1990).
-!- PTM: CLEAVAGE SITES THAT YIELD THE MATURE
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PROSITE; PS50175; ASP_PROT_RETROV; 1.
PROTEASE; ASP_PROT_BEARTY1 protease; Endonuclease;
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Johnson P.R., Fomsgaard A., Allan J.,
Olmstead R.A., Hirsch V.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Simian immunodeficiency virus (AGM155 isolate) (SIV-AGM). Viruses; Retrold viruses; Retroviridae; Lentivirus. NCBI_TaxID=11727;
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PF00075;
                                                                                                                                                                        P03366;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              immunodeficiency viruses genetic diversity.";
1. 64:1086-1092(1990).
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5; Conservative
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                                        IPR002156; -.
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Matches 5
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Pfam; PF00078; rvt; 1.
PROSITE; PS00141; ASP_PROTEASE; 1.
PROSITE; PS50175; ASP_PROT_RETROV; 1.
AIDS; POlyprotein; Hydrolase; Aspartyl pro Nuclease; Transferase; RNA-directed DNA po ACT_SITE 113 113 By SIMILARITY SEQUENCE 1047 AA; 118871 MW; A38DDDA39
Pfam; PF02022; Integr
Pfam; PF00552; integr
Pfam; PF00075; rnaseH
Pfam; PF00065; rve; I
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InterPro; IPR001037; -.
InterPro; IPR001584; -.
InterPro; IPR001999; -.
InterPro; IPR001995; -.
InterPro; IPR002156; -.
                                                                                                                                                                        EMBL; M66437;
EMBL; M58410;
HSSP; P03366;
                                                                                                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (see or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-91220680; PubMed-2024476;
FOMSGPARA A. Hirsch V.M., Allan J.S.,
"A highly divergent proviral DNA clone
of African green monkey.";
Virology 182:397-402(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUI-1993 (Rel. 26, Last sequence update)
01-CT-2000 (Rel. 40, Last annotation update)
POL POLYPROTEIN (CONTAINS: PROTEASE (RETROPEPSIN)
REVERSE TRANSCRIPTASE (EC 2.7.7.49); RIBONUCLEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q02836;
01-JUL-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POL_SIVAI
                                                                                                                                                              MEROPS; A02.003;
                                                                                                                                                                                                                                                                  the European Bioinformatics Institute.
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integrase; 1.
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             ASP_PROTEASE;
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FAMILY A2;
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                   Pfam; PF00
PROSITE; F
PROSITE; F
AIDS; Poly
Nuclease;
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ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                         "Sequence of simian immunodeficiency a new member of the HIV/SIV group."; Nature 333:457-461(1988).
CHAIN
ACT_SITE
                                                                                            Pfam;
Pfam;
                                                                                                                                                                                                                                                             use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
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                                                                                                                 Pfam;
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pF000552; Integrase; 1.
pF00075; rnaseH; 1.
pF00665; rve; 1.
pF00077; rvp; 1.
pF00078; rvt; 1.
                                                                                                                                                                                                                     ; X07805; CAA30658.1;
B30045; GNLJG4.
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TE; PS50175; ASP_PROT_RETROV; 1.

POlyprotein; Hydrolase; Aspartyl protease; En ase; Transferase; RNA-directed DNA polymerase.

1 210 PROTEASE.

ITE 134 134 BY SIMILARITY.
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                                                   ASP_PROTEASE;
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Last annotation update;
AINS: PROTEASE (RETROPEPSIN)
(EC 2.7.7.49); RIBONUCLEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
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Hayami M.;
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ae; Lentivirus
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                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-K12 / MC4100;
MEDLINE-92354744; PubMed=1644192;
Siebert M., Bechthold A., Melzer M.,
Schroeder J., Severin K., Heide L.;
"Ubiquinone biosynthesis. Cloning of
                                                                 "Analysis of the Escherichia coli genome. "Analysis of the Escherichia coli genome. region from 89.2 to 92.8 minutes.";
Nucleic Acids Res. 21:5408-5417(1993).
[6]
                                                                                                               MEDLINE-94089392; PubMe Blattner F.R., Burland
                                                                                                                                                                                                                                                                        pyruvate-lyase and 4-hydroxybenzoate octal
Escherichia coli.";
FEBS Lett. 307:347-350(1992).
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15-JUL-1999 (Rel.
4-HYDROXYBENZOATE
       MEDLINE=94014977; PubMed=8409922; Wu G., Williams H.D., Glbson F., Poole "Mutants of Escherichia coli affected nucleotide sequence of ubih, encoding
                                                                                                                                                                                                                Nishimura K., Nakahigashi K., Inokuchi H.; "Location of the ubiA gene on the physical J. Bacteriol. 174:5762-5762(1992).
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STRAIN-K12 / M
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MEDLINE=92380960; PubMed=1512213;
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38, Last annotation update
OCTAPRENYLTRANSFERASE (EC
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rland V.D., Plun
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RESULT 23
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-I- FUNCTION: SYNTHESIS OF 3-OCTAPRENYL-4-HYDROXYBENZOATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Melzer M., Heide L.;

Melzer M., Heide L.;

"Characterization of polyprenyldiphosphate:4-hydroxybenzoate

"Characterization 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000537; -. Pfam; PF01040; UbiA; 1. PROSITE; PS00943; UBIA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHARACTERIZATION. MEDLINE=95072311;
                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license@isb-sib.ch).
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COACTOR: REQUIRES MAGNESIUM.

PATHWAY: SECOND STEP IN UBIQUINONE BIOSYNTHESIS.

SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. INNER MEMBRANE.

SUMILARITY: BELONGS TO THE UBIA PRENYLTRANSFERASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; B42956; B42956.
; S24361; S24361.
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; S31432; S31432.
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L; M93413; AAA22717.1; ...
L; X66619; CAA47182.1; ...
L; X57434; CAA40682.1; ...
L; X69522; CAA49270.1; ...
L; M00006; AAC43134.1; ...
L; AE00047; AAC477010.1; ...
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57.1%;
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1212:93-102(1994).
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RESULT 24
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LIPASE 3 PRECURSOR (

LIP3 OR CG8823;
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P50739;
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Signal.
SIGNAL
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Drosophila melanogaster (Fruit fly).

Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                                                                                                                                                                                 SEQUENCE
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MEDLINE=96349105; PubMed=8760912;
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  Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.M., Hoskins R.A., Galle R.F., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Pfeiffer B.D., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G. Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G. Abril J.F., Agbayani A., An H.-J., Andrews Pfannkoch C., Baldwin D.,
                                                                                                                                                                                                                                               the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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                     InterPro; IPR000379; -
InterPro; IPR000734; -
Pfam; PF00561; abhydro
                                                                                                             FlyBase; FBgn0023495; Lip3
                                                                                                                                    EMBL; Y14367; CAA74737.1; -. EMBL; AE003699; AAF54935.1;
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MEDLINE-20196006;
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P75417;
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Eukaryota; Fungi; Ascomycota; Saccharomycotina; Sacc
Saccharomycetales; Saccharomycetaceae; Saccharomyces
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                                                                                                                                                                                                                                                                                                                                                  Saccharomyces cerevisiae.";
Nat. Genet. 10:261-268(1995)
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MEDLINE=95400292; PubMed=7670463;
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Sasanuma S.-I., Sasanuma M., Tsuchiya Y., Soeda E.,
Yamazaki M., Tashiro H., Eki T.;
"Analysis of the nucleotide sequence of chromosome
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E., Yokoyama
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POL_HV2CA
P24107;

D1-MAR-1992 (Rel. 21, Created)

D1-MAR-1992 (Rel. 21, Last sequence update)

D5-DEC-1998 (Rel. 37, Last annotation update)

POL POLYPROTEIN (CONTAINS: PROTEASE (RETROPEPSIN)

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"Complete sequence a pneumoniae.";
Nucleic Acids Res. 2
                                                                                                                                                               PIR;
                                                                                                                                                                                                                                                                                               MEDLINE=91170959; PubMed=2005437;
Tristem M., Hill F., Karpas A.;
"Nucleotide sequence of a Guinea-Bissau-derived
immunodeficiency virus type 2 proviral clone (HI
J. Gen. Virol. 72:721-724(1991).
-!- PTM: CLEAVAGE SITES THAT YIELD THE MATURE PR
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-!- MISCELLANEOUS: READTHROUGH
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NCBI_TaxID=11715;
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STRAIN=ATCC 29342 / M129;
MEDLINE=97105885; PubMed=8948633;
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LONGS TO THE MG185 / MG260 FAMILY.
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Retroviridae; Lentivirus.
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Pred. No. 85;
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3.1.26.4)].
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RESULT 28
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Best Local
Pfam; PF02022; Integrase_Zn; 1.
Pfam; PF00552; integrase; 1.
Pfam; PF00075; rnaseH; 1.
Pfam; PF00665; rve; 1.
Pfam; PF00077; rvp; 1.
Pfam; PF00077; rvp; 1.
Pfam; PF00078; rvt; 1.
Pfam; PF00078; rvt; 1.
PROSITE; PS00141; ASP_PROTEASE; 1.
PROSITE; PS0115; ASP_PROT_RETROV; 1
AIDS; Polyprotein; Hydrolase; Aspart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. Schmidt R., Leavitt M., Luznick L., Schmidt Kraus G.K., Talbott R., Leavitt M., Luznick L., Schmidt Badel P., Bartz C., Morton W., Wong-Staal F., Looney D.J Submitted (APR-1955) to the EMBLYGenBank/DDBJ databases.-I- PTM: CLEAVAGE SITES THAT YIELD THE MATURE PROTEINS F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q74120;
01-NOV-1997
01-NOV-1997
15-DEC-1998
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ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                              InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
POL POLYPROTEIN [CONTAINS: PROTEASE (RETROPEPSIN)
REVERSE TRANSCRIPTASE (EC 2.7.7.49); RIBONUCLEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00141; ASP_PROTEASE; 1.
PROSITE; PS50175; ASP_PROT_RETROV; 1.
AIDS; Polyprotein; Hydrolase; Aspartyl proceed Dispersion of the control of the con
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Pfam;
Pfam;
                                                                                                                                                                                                     InterPro; IPR001584; -.
InterPro; IPR001969; -.
InterPro; IPR001995; -.
InterPro; IPR002156; -.
                                                                                                                                                                                                                                                                                                                                       EMBL; U22047;
HSSP; P04584;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human immunodeficiency virus type 2 (isolate KR)
Viruses; Retroid viruses; Retroviridae; Lentiviru
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=73484;
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pF00075; rnaseH;
pF00665; rve; 1.
pF00077; rvp; 1.
pF00078; rvt; 1.
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5; Conser
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rnaseH; 1.
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RETROPEPSIN FAMILY.
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3514E566AA6D7C86 CRC64;
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    protease;
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RESULT 29
POL_HV2NZ
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Best Local S
Matches 5
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P05962; Q85571;
01-NOV-1988 (Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P05962; (NB307.),
Ol-NOV-1988 (Rel. 09, Created)
Ol-NOV-1988 (Rel. 09, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
POL POLYPROTEIN [CONTAINS: PROTEASE (RETROPEPSIN)
POL POLYPROTEIN [CONTAINS: PROTEASE (RETROPEPSIN)
THANSCRIPTASE (EC 2.7.7.49); RIBONUCLEASE
 CHAIN
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                         Hall L., Fargnoli K., Jagodzinski L.L., Guo H.-G., Laure F., Arya S.K., Josephs S.F., Zagury D., Wong-Staal F., Gallo R.C., "Genetic variability between isolates of human immunodeficiency v (HIV) type 2 is comparable to the variability among HIV type 1.", Proc. Natl. Acad. Sci. U.S.A. 85:5941-5945(1988).

-!- PPM: CLEAVAGE SITES THAT YIELD THE MATURE PROTEIUS DETERMINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
ACT_SITE
SEQUENCE
                                                                                                         Pfam;
Pfam;
                                                                                              Pfam;
                                                                                                                                           Pfam;
                                                                                                                                                                                                                                        EMBL; J03654; AAB00755.1;
HSSP; P04584; 1JLD.
HIV; J03654; POL$2NIHZ.
             AIDS; Polyprotein; Hydrolase; Aspartyl protease; Endonuclease; Nuclease; Transferase; RNA-directed DNA polymerase. CHAIN 85 183 PROTEASE CHAIN B5 183 PROTEASE ACT_SITE 109 109 BY SIMILARITY.
                                                                                                                                                                                                                                                                                                          the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Viruses; Retroid
NCBI_TaxID=11719;
                                                                                                                                 Pfam;
                                                                                                                                                      InterPro; IPR002156;
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InterPro; IPR001037; -.
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                                                                                                                                                                                                                                                                                      tities requires a license agreement (See http://www.isb-sib.send an email to license@isb-sib.ch).
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                                                                                        n; PF02022; Integrase_Zn; n, PF02522; Integrase; 1. n; PF000552; integrase; 1. n; PF000675; rnaseH; 1. n; PF000677; rve; 1. n; PF000777; rve; 1.
                                                                                                                                                                                                                                                                                                                                                                                 DETERMINED. SIMILARITY: THE PROTEASE BELONGS KNOWN AS THE RETROPEPSIN FAMILY.
                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL
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                                                                                   PF00078; rvt;
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5; Conser
                                                          PS00141; ASP_PROTEASE; FA. PS50175; ASP_PROT_RETROV;
                                                                                                                                                                 ; IPR001584; -.; IPR001969; -.; IPR001995; -.
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71.4%;
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Retroviridae; Lenti
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BY
MW;
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1.2e+02;
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Lentivirus.
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3.1.26.4)].
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Pfam; PF00078; rvt; 1.

PROSITE; PS00141; ASP_PROTEASE; 1.

PROSITE; PS00175; ASP_PROT_RETROV; 1.

AIDS; Polyprotein; Hydrolase; Aspartyl pr

Nuclease; Transferase; RNA-directed DNA F

T CHAIN

B5 183 PROTEASE.

T CT_SITE 109 BY SIMILARI

ACT_SITE 109 BY SIMILARI

T ACT_SITE 1035 AA; 117552 MW; 9D6A98D
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                   Pfam; PF02022; Integrase_Zn; 1
Pfam; PF00552; integrase; 1.
Pfam; PF00075; rnaseH; 1.
Pfam; PF00665; rve; 1.
Pfam; PF00077; rvp; 1.
Pfam; PF00078; rvt; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P12451; Q85570;
D1-OCT-1989 (Rel. 12, Created)
D1-OCT-1989 (Rel. 12, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
POL POLYPROTEIN (CONTAINS: PROTEASE (RETROPEPSIN)
REVERSE TRANSCRIPTASE (EC 2.7.7.49); RIBONUCLEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           muse by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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Franchini G., Fargnoli K.A., Giombini F., J
Bosch M., Biberfeld G., Fenyo A.M., Albert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human immunodeficiency vir
Viruses; Retroid viruses;
NCBI_TaxID=11718;
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MEROPS; A02.002;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Molecular and biological characterization of a replication human immunodeficiency type 2 (HIV-2) provital clone."; -human immunodesisciency type 2. Proc. Natl. Acad. Sci. U.S.A. 86:2433-2437(1989).
-1- PTM: CLEAVAGE SITES THAT YIELD THE MATURE PROTEINS REMAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POL_HV2SB
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SIMILARITY: THE PROTEASE BELONGS TO PEPTIDASE FAMILY KNOWN AS THE RETROPEPSIN FAMILY.
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es; Retroviridae; Lentivirus.
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Pred. No. 1.2e+02;
0; Mismatches 2;
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9D6A98D9DBE4D393
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t J., Gallo R.C.
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Query Match Best Local Similarity

62. 71.

Score Pred.

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16.365 Million cell updates/sec
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                                                                                                                                                                                                                              Description
                                                                                                                                                  Immunogenic peptid
gp100/Pmel17 synth
PMEL 17 (GP100) pr
                                                                      Peptide 3 from gp
Melanoma associate
Tumour antigenic p
Immunogenic peptid
Human gp100-Pmell1
Amino acid sequenc
                                                        Human melanoma Pme
                                                                                                                                    Melanoma-associate
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Modified MART-1 me	AAR84808	16	9	91.5	54	45
	AAR84807	16	9		54	44
Modified MART-1 me	AAR84806	16	9		54	43
MART-1	AAR84805	16	9		54	42
Modified MART-1 me	AAR84804	16	9	91.5	54	41
Ė	AAR78645	16	9		54	0
ogenic	AAR78641	16	8		54	39
mela	AAR84854	16	661		55	38
melanoma	AAY31978	20	625		55	37
	AAW42542	19	9		55	36
encoded	AAW38164	18	668	•	59	35
Human melanoma ant	AAY42627	20	662		59	34
Human melanoma ant	AAY31977	20	661		59	ω
Melanoma associate	AAR78646	16	661		59	32
MART-1 melanoma an	AAR84855	16	661		59	3
Gp100 peptide #1.	AAB61647	22	30		59	30
Immunogenic peptid	AAR78642	16	11		59	29
gp100 melanoma ant	AAR84209	16	10	•	59	28
Immunogenic peptid	AAR78643	16	10		59	27
· O	AAB31354	22	9	•	59	26
gp100-Pme1-117 gen	AAY56614	21	9	•	59	25
gp100(Pmel117) tum	AAY82979	21	9		59	24
Tumour associated	AAY84296	21	•		59	23
	AAY92299	21	9	•	59	22
Human leukocyte an	AAY90803	21	9	•	59	21
Tumour associated	AAB02622	21	9	•	59	20
Human gp100 Pme111	AAY71520	21	9		59	19
ğ	AAB08694	21	9		59	18
Cytotoxic T lympho		21	9		59	17
class I	99	21	9		59	16
HLA Class I motif	4	20	9		59	15
	007	20	9	•	59	14
Exemplary antigeni	Y0175	20	9		59	13
Melanoma-derived l	AAY26867	20	9	100.0	59	12

## ALIGNMENTS

RESULT AAR78644

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22-JAN-1996 (first entry)

Immunogenic peptide of melanoma associated antigen gp100

AAR78644;

AAR78644 standard; Protein; 9

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Melanoma associated antigen \ensuremath{\mathsf{gp100}} - used in vaccines and for the detection of tumours
                                      WPI; 1995-284790/38.
                                                                                    21-DEC-1994;
16-FEB-1994;
                                                                                                                                                                        Melanoma; antigen; vaccine; immunogen; primer; probe; detection; identification; tumour; gp100.
                              N-PSDB; AAQ96055.
                                                     Adema GJ, Figdor CG
                                                                                                            14-FEB-1995;
                                                                                                                            23-AUG-1995
                                                                                                                                           EP668350-A1.
                                                                                                                                                          Homo sapiens
                                                                    (ALKU ) AKZO NOBEL NV
                                                                                   94EP-0203709.
94EP-0200337.
                                                                                                            95EP-0200348
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RESULT
AAW77119
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Matches 9
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                                                                                                     The peptide epitope AAW77119-W77138 were created for human tumour-specific cytotoxic T lymphocyte response. These peptides are are cysteine- depleted mutants of a native disease-specific CTL epitope. The cysteine- depleted CTL epitopes elicit a stronger or more specific CTL response than the native epitope. The epitopes can be used in a disease-specific immunogen to protect a mammal against disease in particular melanomas. The peptides may also be used to screen a sample for the presence of an antigen with the same epitope, or with a different
                                                                                                                                                                                                                            Disclosure; Page 27; 93pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunogenic peptides derived from the melanoma associated antigen (See AAR78639-45) may be used in the production of vaccines. Nucleotide sequences encoding the immunogenic peptides may be used as primers and probes in the detection of melanoma cells. Tumour infiltrating lymphocytes capable of binding to the melanoma associated antigen can be cultured ex vivo and returned to melanoma particles, and when radiolabelled, they may be used to identify
                                                                   Sequence
                                                                                           cross-reactive epitope.
                                                                                                                                                                                                                                                                     Disease specific immunogen
                                                                                                                                                                                                                                                                                                                         Engelhard VH,
                                                                                                                                                                                                                                                                                                                                                                           30-JAN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tyrosinase; tyrosinase cytotoxic lymphocyte response; cytotoxic T lymphocyte; cysteine-depleted; melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gp100/Pmel17 synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                              06-AUG-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW77119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW77119 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                      lymphocyte epitope used
                                                                                                                                                                                                                                                                                                                                                 (UYVI-) UNIV VIRGINIA PATENT FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tumour deposits.
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  Similarity
9; Conserv
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 100.0%;
llarity 100.0%;
Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide epitope 1.
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                                                                                                                                                                                                                                                                                                                       Kittlesen D,
                                                                                                                                                                                                                                                      - comprises disease specific cytotoxic T elicit melanoma specific CTL response
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 Score 59; DE
Pred. No. 3.4
0; Mismatches
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Pred. No.
                                                                                                                                                                                                                                                                                                                      Slingluff CL
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3.4e+05;
               3.4e+05;
                            DB 19;
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                           Length
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100.0%; ilarity 100.0%; Conservative (

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Score 59; Pred. No. Mismatches

3.4e+05; BB

Length Indels

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Sequence

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RESULT
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                        coding sequence encodes an expression product selected from: (1) a polypeptide at least 7 amino acids in length, having a sequence identical to the sequence of: (1) a fragment of a naturally-occurring mammalian protein; or (ii) a fragment of a naturally-occurring protein from an infectious agent which infects a mammal; (2) a peptide having a length and sequence which permits it to bind to an MHC class I or II molecule; and (3) the polypeptide or the peptide linked to a trafficking sequence AAM69763 to AAW69765, and AAW78793 to AAW78897 are peptide fragments for use in the present invention. The MPs are highly effective vehicles for the delivery of polynucleotides into phaspocytic cells. They can be used for gene therapy, e.g. for treating genetic diseases, infections or tumours or for downregulating an immune response.
                                                                                                                                                                                                                   (b) an expression vector selected from RNA molecules (at least 50% of which are closed circles) or circular plasmid DNA (at least 50% of which are supercoiled). Also described is a MP of at most 20 microns in diameter, comprising: (a) a PM; and (b) a NAM comprising an expression control sequence operatively linked to a coding sequence, where the coding sequence encodes an expression product selection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              New preparations of microparticles - matrix and nucleic acid comprising ar
                                                                                                                                                                                                                                                                                                                        comprises: (a) a polymeric matrix (PM) consisting of one or mos
synthetic polymers having a solubility in water of less that 1
                                                                                                                                                                                                                                                                                                                                                             A microparticle preparation (MP) has been developed, microparticles having a diameter of less than 100 mu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Curley JM, Hedley ML,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Microparticle; delivery; polymeric class II associated peptide; patho infection; downregulation; immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PMEL
                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 10; 101pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW78850 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PANG-) PANGAEA PHARM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-JAN-1998;
22-JAN-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW78850;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ц
                   ours or for downregulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17 (GP100) protein fragment 154-162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  delivery; polymeric matrix; autoantigen; tumour iated peptide; pathogen; gene therapy; genetic dinregulation; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0003253
97US-0787547
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Langer RS,
                                                                                                                                                                                                                                                                                                                                                                                                              English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lunsford LB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              comprising a synthetic polymer 
n expression vector for use in
                                                                                                                                                                                                                                                                                                                                           one or more
                                                                                                                                                                                                                                                                                                                                                                              consisting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antigen;
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KTWGQYWQV 9

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RESULT
AAW70010
ID AAW7
                Query Match
Best Local Similarity
   Matches
                                                                                                                                                                molecules with antigen presenting cells (APCs) pretreated with pretreatment growth factors, and incubating the APCs with purified CDB pretreatment growth factors, and incubation growth factors, thereby cells in the presence of at least 2 incubation growth factors, thereby producing antigen-specific CTLs. A method for specifically killing target cells in a human patient is also provided which comprises obtaining a fluid sample containing CTLs from a patient, contacting the cytotoxic T cells with APCs pretreated with pre-treatment growth factors, where the APCs comprise class I MHC molecules. The pretreated APCs are incubated with the cytotoxic growth factors, thereby producing activated CTLs which are contacted with a carrier to form a composition. The composition can then be administered to the patient. The activated
                                                                                                                                                                                                                                                                                                                                                              Sequences shown in AAW70010 to AAW70026 represent peptides derived from melanoma-associated antigen gp100 that can bind to a human leukocyte antigen (HLA), HLA-A2.1 The peptides are used to exemplify the method of invention of producing antigen-specific cytotoxic T cells (CTLs) in vitro. The method comprises contacting immunogenic peptides from an antigen that binds class I major histocompatibility complex (MHC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Production of antigen-specific cytotoxic T cells - by incubating immunogenic peptide(s) from antigen that binds class I major histocompatibility complex molecules with pre-treated antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-AUG-1998
                                                                                   Sequence
                                                                                                                                       CTLs can be used for treating infections, AIDS, hepatitis, h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 4; Page 62; 104pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenting cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-437445/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Celis E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-JAN-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytotoxic T lymphocyte; CTL; major histocompatibility complex; MHC; human leukocyte antigen; HLA; tumour associated antigen; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW70010;
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                                                                                                                         malaria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (EPIM-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fungal infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antigen presenting cell; APC; immunogenic viral infection; AIDS; hepatitis; bacteria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Melanoma-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                       or tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EPIMMUNE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sette A,
                                                                                      9
 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antigen gp100 derived HLA-A2.1 binding peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sidney
                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'n
 0,
                                                                                                                                       ng cancers,
bacterial
Score 59; DB 19;
Pred. No. 3.4e+05;
); Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unogenic peptide; immune disor bacterial infection; malaria;
                                                                                                                                       infection,
                                                                                                                                                       immune disorders,
                                Length
                                                                                                                                     fungal infection,
 Indels
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RESULT
AAW54598
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                                                                                      AAW45770
                                                                                                  RESULT
                                                                                                                                                                                Matches
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Best Local
                                                                                                                                                                                                                                                                               The peptides AAW54559-W54809 are examples of peptides to which at least 1 (preferably 2) mannose can be attached to increase their uptake as antigens by antigen-presenting cells. Uptake of agonist mannosylated peptides will increase the T cell response, whereas uptake of antagonist peptides blocks the T cell response. Blocking binding of immunogenic autoantigens can be used in treatment of type I diabetes, rheumatoid arthritis, graft rejection etc., also to induce T-cell non-responsiveness. Vaccines containing mannosylated antigen are used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mannose;
vaccine;
        Melanoma associated peptide analogue
                                                                                                                                                                                                                                                                                                                                                                                                          Increasing uptake and presentation of antigen(s) - by residue(s) to antigen for increasing T cell response, e.g. vaccines against viral infection(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW54598;
                            22-JUN-1998 (first entry)
                                                     AAW45770
                                                                          AAW45770 standard; peptide; 9
                                                                                                                                                                                                                                                                      responsiveness. Vaccines conta
prevent or treat infections by,
                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 24; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drijfhout JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W09813378-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW54598 standard; peptide; 9
                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UYLE-) RIJKSUNIV LEIDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide
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                                                                                                                                                                                                                                                             and parasites.
                                                                                                                                                         1 KTWGQYWQV 9
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                                                                                                                                 ktwgqywqv 9
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                                                                                                                                                                              Similarity
9; Conserv
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treatment.
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                                                                                                                                                                                Conservative
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                                                                                                                                                                                         100.0%;
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                                                                                                                                                                                         Score 59;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                      e.g.
                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                        mannosylated antigen are used to bacteria, viruses, fungi, helminths
                                                                                                                                                                                          3.4e+05;
                                                                                                                                                                                                      DB 19;
                                                                                                                                                                                                     Length
                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                      adding
useful
                                                                                                                                                                                                     9;
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                                                                                                                                                                              0;
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in,
                                                                                                                                                                              Gaps
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RESULT
AAY49663
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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Best Local Similarity
             14-APR-1999;
                                       21-OCT-1999
                                                                                         Synthetic.
                                                                                                                                                                    Tumour antigenic peptide SEQ ID NO:30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           a part of the following sequence, where the amino acid at position 2 or 8 is substituted: Lys-Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val. Vaccines comprising the peptide, an epitope of the peptide sequence encoding the peptide, or an antigen presenting cell preloaded with the peptide or antibody as above, are useful for cancer, particularly melanoma, treatment. The peptides can also be used to generate antigen reactive tumour infiltrating lymphocytes, which can also be used in vaccines. The peptides can be exploited to elicit native epitope-reactive CTI. Usage of the peptides with improved immunogenicity may contribute to the development of CTI-epitope based vaccines in viral disease and cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents a specifically claimed example of a novel peptide, which is immunogenic with lymphocytes directed against metastatic melanomas. It is characterised in that it comprises at least
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
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                                                               WO9953061-A2
                                                                                                                    carcinoma;
                                                                                                                               Human; sdph3.10; SAGE; sdp3.8; HAGE; sdp3.5; TRAP; sarcoma; tumour rejection antigen precursor; tumour associated nucle
                                                                                                                                                                                                 14-JAN-2000
                                                                                                                                                                                                                          AAY49663;
                                                                                                                                                                                                                                                   AAY49663 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Melanoma associated peptide analogues -
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                                                                                                                                                                                                                                                                                                                               KTWGQYWQV 9
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                                                                                                                    cancer;
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             99WO-US08163
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                                                                                                                                                                                                                                                 peptide;
                                                                                                                   immune response;
                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                    Score 59; DE Pred. No. 3.4
                                                                                                                   diagnosis
                                                                                                                               tumour associated nucleic acid;
                                                                                                                                                                                                                                                                                                                                                                                 3.4e+05;
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QY

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melanoma; malaria;

parasite.

hepatitis B

virus; papilloma

e; CTL; lipid; spacer; immune response; HIV;

Homo

sapiens

electrical charge; hydrophilicity; human immunodeficiency virus; hepa

Lipopeptide; epitope; cytotoxic T lymphocyte; electrical charge; hydrophilicity; vaccine; in

Human melanoma 18-JAN-2000

Pme17

(gp100)

(aa 154-162) binds HLA-A2

(first entry)

AAY53524;

AAY53524 standard;

Protein;

9

07-APR-1998;

98FR-0004323

08-OCT-1999 FR2776926-A1

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AAY53524
                      RESULT
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Best Local S
Matches S
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27-JUL-1998;
30-OCT-1998;
30-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complexes are used for treating cancer, especially sarcoma and carcinoma, in humans and other animals. Compositions containing autologous cytolytic T cells (CTL), specific for the HLA/(I) complex, are similarly useful, also transformed cells that stimulate such CTL in vivo. (II) are also used: (i) as source of therapeutic antisense sequences that reduce expression of (II); (ii) for recombinant production of (I); (iii) particularly its fragments, as primers and probes in usual hybridisation and amplification assays, for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                            prognosis and monitoring of tumours, or for measuring binding specificity of HLA molecules or CTL clones; (Iv) to identify related sequences; and (v) for generating transgenic animals, e.g. for studying cancer and immune responses to it. (I) are used to raise specific antibodies (Ab) and therapeutically. Ab are used to diagnose tumours in immunoassays, also for delivering drugs, toxins, imaging agents etc. to (I) expressing cells, AAY49677 to AAY49670 represent exemplary tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes sarcoma-associated gene products (I) agents, specifically sarcoma associated nucleic acids (II) or their expression products that are tumour rejection antigens (TRA), that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New nucleic acid encoding sarcoma-associated gene products, useful for diagnosing, e.g. treating and preventing cancer \,
                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 25; 93pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      selectively
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9; Conserv
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                                                                                                                                                                                                                 Conservative
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98US-0122989.
98US-0183706.
98US-0183789.
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                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                     Score 59;
Pred. No.
                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                              . 3.4e+05;
ches 0;
                                                                                                                                                                                                                                                                       DB 20;
                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                 0,
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07-APR-1998;

98FR-0004323.

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI;
                                                                                                                                                                                                                              Human leukocyte antigen; binding; immunogenic; glycoprotein; MHC; HLA; immune response; T cell activation; major histocompatibility complex; cytotoxic T lymphocyte; CTL; tumour rejection; viral infection; cancer prostate cancer; hepatitis B; hepatitis C; AIDS; renal carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to the generation of a lipopeptide comprising at least one auxiliary T epitope, at least one cytotoxic T lymphocyte (CTL) epitope and at least one lipid residue with (1) the epitopes and lipid portion and (11) the epitopes, being separated independently by peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vaccines
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            WPI; 1999-551214/46
                                   Sette A,
                                                            (EPIM-)
                                                                                   13-MAR-1998;
                                                                                                           13-MAR-1998;
                                                                                                                                 16-SEP-1999
                                                                                                                                                         WO9945954-A1
                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                      vaccine; immunisation.
                                                                                                                                                                                                                                                                                          Immunogenic peptide having a human leukocyte antigen binding motif #227
                                                                                                                                                                                                                                                                                                                   01-DEC-1999
                                                                                                                                                                                                                                                                                                                                           AAY47616;
                                                                                                                                                                                                                                                                                                                                                                 AAY47616 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                             -
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9; Conserv
                                                            EPIMMUNE INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         immune responses against la viruses; p53 of melanoma
                                   Kubo RT, Sidney J,
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llarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                  (first entry)
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                                                                                   98WO-US05039
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Pred. No.
                                   Ceris
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         an immunodeficiency, hepatitis B the malaria parasite.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.4e+05;
                                   Grey
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and two epitopes, all hydrophilicity, useful
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                                    MH,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                    WPI; 1999-540840/45
                                                                                                                                                                                                                                                                                                                                                                                                                        06-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human gp100-Pmel117 peptide
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                                                                                                                                                                                                                                                                                                   (VBRU/)
(CORN/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-SEP-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; protein delivery; Yersinia sp.; effector gene; mutant; antigen; immune response; cytotoxic T-lymphocyte; CTL; vaccination; treatment; pathological disorder; gp100-Pmell17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polynucleotides encoding the immunogenic peptides are also useful therapeutically and for immunisation as above.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10
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                                                                                                                                             Der Bruggen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ktwgqywqv
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                                                                                                                                                                                                                          ') VAN DER BRUGGEN P E
') CORNELIS G R.
') BOLAND A M.
') BOON-FALLEUR T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page 116; 150pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; ilarity 100.0%; Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0036582
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                                                                                                                                             PB,
                                                                                                                                                 Cornelis
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Pred. No.
                                                                                                                                             GR,
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3.4e+05;
                                                                                                                                                 M,
                                                                                                                                                 Boon-Falleur
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New mutant Yersinia strains useful for treating a pathological disorder

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RESULT
AAY40211
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cc mutation(s) in effector-encoding gene(s) and deficient in the production confunctional effector protein(s). The invention describes (1) a cc quintuple mutant Yersinia strain, having the designation Yersinia cc enterocolitica yopeHOMP or Yersinia pseudotuberculosis yopeHAOJ; (2) an cc expression vector (EV1) for delivering a heterologous protein into a cc eukaryotic cell, comprising in the 5'-3' direction; (3) a Yersinia or cc eukaryotic cell, comprising contacting the cell with a Y1 transformed cc eukaryotic cell, comprising contacting the cell with a Y1 transformed cc with the above vector (Y1-EV1); (4) a method for delivering a heterologous protein into a cc eukaryotic cell, comprising contacting the cell with a Y1 transformed cc for 'inducing an immune response specific for a heterologous protein; (6) a method for inducing a cytotoxic T-lymphocyte (CT1); (5) a method for inducing a cytotoxic T-lymphocyte (CT1); response specific cc an antigen vaccination regimen in a subject. Y1 is used to treat a cc pathological disorder, by providing recombinant versinia for the safe delivery of proteins into eukaryotic cells. AAY3314'-Y33178 are
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
Disclosure; Page 35; 53pp; French
                                    cancer or
                                                New lipopeptide comprising C-terminal interferon-gamma fragment with attached lipophilic groups, used as interferon mimic, e.g. for treat:
                                                                                                                                                                                                                                                                                                                                                                                                       CD4+ epitope; B epitope; lipopeptide; interferon gamma; adjuvant; vaccine; tumor; infection; immune response; cytokine profile; acquired immune deficiency syndrome; papilloma; cancer; hepatitis;
                                                                                                     WPI; 1999-510734/43
                                                                                                                                                                    (INRM ) INSERM INST NAT SANTE & RECH MEDICALE (INSP ) INST PASTEUR LILLE.
                                                                                                                                                                                                                      06-FEB-1998;
                                                                                                                                                                                                                                                       06-FEB-1998;
                                                                                                                                                                                                                                                                                                                          FR2774687-A1
                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                          autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytotoxic T cell; T lymphocyte; CD8+ epitope; T helper cell; CD4+ epitope; B epitope; lipopeptide; interferon gamma; adju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY40211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY40211 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This invention describes a novel mutant Yersinia (Y1) strain, mutation(s) in effector-encoding gene(s) and deficient in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ; Page 71;
                                                                                                                                      Guillet JG,
                                  virus infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                        98FR-0001439
                                                                                                                                                                                                                                                         98FR-0001439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of a human melanoma epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
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                                                                                                                                      Ver Waerde C,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 59;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
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                                                                                                                                      Gras
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                                                                                                                                    Loing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC AAY40123-Y40379 represent epitopes that are able to activate cytotoxic CC Tymphocytes (CD8+ epitopes). Thelper cells (CD4+ epitopes), or CC B epitopes recognized by corresponding antibodies. The epitopes may be used in the composition of the invention. The specification describes a CC lipopeptide that has a peptide part derived from mammalian interferon CC gamma (IFNg) and one or more lipophilic parts comprising a linear or CC branched, (un)saturated 4-20C hydrocarbyl chain or a steroid. The CC lipopeptide mimics the activity of IFNg. Compositions comprising the CC lipopeptide are used to treat or prevent any condition that responds CC lipopeptide as adjuvant for vaccines (particularly those directed against tumors, viral or parasitic infections), to stimulate or CC (re)orient the immune response between types 1 and 2 cytokine profiles. CC Particular applications are treatment of infections (particularly cancers) and content the immune deficiency syndrome, papilloma (cancer) and content the immune deficiency syndrome, papilloma (cancers) and content the immune deficiency syndrome, papilloma (cancers) and content the immune are content syndrome, papilloma (cancers) and content the immune are content syndrome, papilloma (cancers) and content the immune are content syndrome, papilloma (cancers) and content the immune are content syndrome, papilloma (cancers) and content the content of the content co
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Best Local Similarity
                                        Disclosure; Page
                                                                           Immunogenic lipopeptide micelles containing cytotoxic and helper 1
                                                                                                                                                 WPI; 1999-349509/30
                                                                                                                                                                                                                                                     (CNRS ) CNRS CENT NAT RECH SCI.
(INRM ) INSERM INST NAT SANTE &
(INSP ) INST PASTEUR LILLE.
                                                                                                                                                                                                                                                                                                                                                                                       03-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Melanoma-derived lipopeptide epitope #8 for mixed micelles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                 04-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 melanoma; Plasmodium falciparum; malaria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cytotoxic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Micelle; microaggregate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY26867 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tetanus; toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   myelogenous leukemia or mesothelioma),
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T-lymphocyte; epitope; lipid; helper T-toxin; vaccine; HIV; hepatitis B virus;
                                                                                                                                                                                         Bourgault VI,
Wieruszeski JM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
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                                                                                                                                                                                                                                                                                                                                             97FR-0015246
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                                     37; 60pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             induction;
                                                                                                                                                                                                               Gras-Masse H,
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Pred. No.
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                                                                              T-lymphocyte
                                                                                                                                                                                                                                                                                RECH MEDICALE
                                                                                                  comprising lipopeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  immune response; lipopeptide;
oid; helper T-lymphocyte; HTL;
tis B virus; papilloma virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   allergy;
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s 0;
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The invention

relates

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the generation

of mixed micelles

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RESULT
AAY01753
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Best Local
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                                                                    The present sequence represents an exemplary tumour associated peptide antigen. The specification describes a MAGE-3 tumour associated gene Peptides (AAY01721-25) that bind human leucocyte antigen (HLA) Class II molecules can be derived from the MAGE-3 protein. These peptides and autologous CD4+ cells that bind to a complex of MAGE-3 peptide and HLA Class II, are used to treat MAGE-3 related diseases, particularly cancers (e.g. melanoma, osteosarcoma, leukemia and
various forms of carcinoma). The peptides are also used to produce specific antibodies. Detection of of the peptides, e.g. in binding assays, particularly with antibodies, is used for diagnosis of such
                                                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAGE-3; tumour associated gene; human leucocyte antigen Class II;
autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY01753 standard; Peptide;
                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                         molecules
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-SEP-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LUDWIG INST CANCER UNIV VRIJE BRUSSEL.
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9; Conserv
                                                                                                                                                                                                                                                                                                                                           peptides that bind to human leucocyte antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                              Stroobant
                                                                                                                                                                                                                                                                    Page 29;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INST CANCER RES
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Chaux P, Corthals J, bant V, Thielemans K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
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                                                                                                                                                                                                                                                                  88pp; English
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Pred. No.
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Van Der
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Bruggen
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Sequence

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Score 59; Pred. No. :

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Best Local Similarity
Matches 9; Conserv
                                       non-adjuvant with the peptide which includes the antigen, in an amount effective to reduce the initial immune response. Method (A) is used to enhance the immune response against tumour cells expressing tumour rejection antigens, and against pathogens in subjects having human leukocyte antigen-presenting molecules. Method (B) is used to reduce the immune response in allergy, autoimmune disease, and allograft rejection. Method (A) provides an immunisation method which, unlike prior art, is
                                                                                                                                                       This sequence represents a tumour antigen booster peptide that can be used in the method of the invention. The method is for for modulating an immune response in a mammal against an antigen, and comprises:

(A) inducing an immune response by: (1) administering a virus containing a nucleic acid molecule encoding the antigen or its precursor to generate an immune response; and (ii) administering at least one booster dose comprising a peptide including the antigen, in an adjuvant, in a combined amount effective to enhance the initial immune response; or

(B) reducing an immune response as defined for (A) but using a
                                                                                                                                                                                                                                                                                                                                                                       Immunization methods using viruses expressing antigen for priming and booster immunizations - useful for modulating immune responses against antigen, e.g. enhancing immune response against tumour cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allograft rejection
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Sequence
                                                                                                                                                                                                                                                                                                                          Disclosure; Page 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-105612/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Boon-Falleur T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-JUN-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumour antigen;
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                             not limited
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            leukocyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'umour antigen; booster peptide; immune response modulation; allergy;
mmune response enhancer; tumour cell; tumour rejection antigen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KTWGQYWQV 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antigen-presenting
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                                                                                                                                                                                                                                                                                                                                                         tumour rejection antigens
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                               by the
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                               host immune
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ing molecule;
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                             response against viral vectors.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; DB 20;
. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              disease;
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RESULT 1
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Best Local Similarity
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                                                                                                                                                                                                                                                                        The present invention describes a method of inducing and/or sustaining an immunological cytotoxic Tlymphocyte (CTL) response in a mammal. The method comprises: (a) delivering an antigen to the mammal at a level to induce an immunological CTL response in the mammal; and (b) maintaining the level of the antigen in the mammal's lymphatic system to maintain the immunologic CTL response. The method can be used for the delivery of e.g. a differentiation antigen, a tumour-specific multilineage antigen, an embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene antigen, or a viral antigen. They can be used for the treatment of disease such as cancer, e.g. malignant melanoma or infectious disease, e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery to the lymphatic system provides for potent CTL stimulation that takes place in the milieu of the lymphoid organ, and it sustains stimulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytotoxic T-lymphocyte response; CTL; antigen; lymphatic immunisation; tumour; infectious disease; immunotherapy; malignant melanoma; viral disease; hepatitis; AIDS.
                                                                                                                                                                                                                                                                                                                                                       that is necessary to keep CTL active, cytotoxic and recirculating through the body. AAY10071 to AAY10639 represent examples of pept
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 40; 199pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inducing a cytotoxic T lymphocyte response - by maintaining of antigen in the lymphatic system of a mammal so as to prov
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                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sustained CTL response, used to treat,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-DEC-1997;
10-JUL-1997;
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                                                        KTWGQYWQV 9
ktwggywgv 9
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                                                                                                                    Conservative
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97CA-2209815
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                                                                                                                                                                                                                                                                                                                                 the present invention.
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Pred. No. 3.4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           u mammal so as to provide e.g. AIDS
                                                                                                                                                                                DB 20;
                                                                                                                                             .4e+05;
                                                                                                                                                                      Length 9;
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RESULT

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ATPase; Hsp70;

heat shock protein; cytotoxic T lymphocyte; CTL;

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AAB23679
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Best Local Similarity
Watches 9; Conserva
XX D X D X A X I
                                                                                                                                                                                                                                                                                                                                      encapsulated in a liposome and does not comprise a cell. The nucleotide sequence encodes an expression product that binds to major histocompatibility complex (MHC) type I or II molecules. Peptides AAB33602-B33647 represent MHC class II associated immunogenic peptides, and AAB33648-B33710 represent MHC class I associated immunogenic peptides. The peptides are examples of the expression products of the nucleotide sequences which can be included in the microparticles of the invention. Sequences AAB33711-B33716 represent alternative expression products and nuclear localisation signals also used in the invention. The microparticles are useful for administering a nucleic acid into the mucosal tissue preferably vaginal tissue of an animal.
                         Cytotoxic T lymphocyte (CTL) epitope SEQ ID NO:31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Microparticles useful for administering a nucleic acid into the mucosal tissue preferably vaginal tissue of an animal, comprises a polymeric matrix, a lipid and a nucleic acid molecule
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to microparticles which are less than microns in diameter, which comprise a polymeric matrix, a lipid and nucleic acid molecule. The microparticle is specifically not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unidentified.
                                                      05-JAN-2001
                                                                                   AAB23679;
                                                                                                               AAB23679 standard;
                                                                                                                                                                                                                                                                                                              Sequence
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27-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     major histocompatibility complex;
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                                                                                                                                                                                                                                                                                                                 9 AA;
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                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic acid delivery; immunogenic peptide; MHC I; MHC patibility complex; vaginal tissue; mucosal tissue..
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99US-0321346.
                                                                                                             Peptide;
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                         The present invention describes a fused protein (I) prepared from a peptide containing a CTL (cytotoxic T lymphocyte) epitope recognised by epitoke containing a CTL (cytotoxic T lymphocyte) epitope recognised by cytotoxic T cells and a protein containing the ATPase domain of a heat shock protein. Also described are: (1) a drug composition containing (I) as active ingredient; (2) a DNA encoding (I); (3) an expression vector containing the DNA of (2); and (4) a transformant which can retain the expression vector of (3). (I) has cytostatic, immunostimulant and protozoacide activities, and can be used as a cellular immune response inducer. The protein is useful as an active ingredient for drug compositions in preventing and/or treating infectious diseases such as malaria or cancer e.g. to provide systemic immunity against leukaemia. The present sequence represents a specifically claimed CTL epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fused protein capable of inducing cellular immune response, useful as active ingredient for drug compositions in preventing and/or treating infectious diseases such as malaria or cancer \,
                                                                                                     EphA3;
CD4+ T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 7; Page 58; 72pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immune response; infectious disease; malaria; cytotoxic T cell;
cytostatic; immunostimulant; cellular immune response inducer;
                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shinbara N,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protozoacide;
           18-FEB-2000; 2000WO-US04326
                                  31-AUG-2000
                                                        WO200050589-A1
                                                                                HOMO
                                                                                                                                       Antigenic
                                                                                                                                                              02-JAN-2001
                                                                                                                                                                                      AAB08694
                                                                                                                                                                                                          AAB08694 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (SUME ) SUMITOMO ELECTRIC IND
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                                                                                                                                                                                                                                                                   ktwgqywqv 9
                                                                                                                                                                                                                                                                                         KTWGQYWQV 9
                                                                                                    HLA class II-binding peptide; lymphocyte; tumour associated
                                                                                                                                                                                                                                                                                                                                                                                                 in a fused protein of the present invention
                                                                                                                                       peptide
                                                                                                                                                                                                                                                                                                                                                                            9 AA;
                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Udono H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-JP00941
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                                                                                                                                       tumour
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                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                             Score 59; DB Z1, Pred. No. 3.4e+05;
                                                                                                                                       rejection antigen
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                                                                                                     human
gene;
                                                                                                                leukocyte antigen; antigen
                                                                                                                                      gp100(Pmel117).
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RESULT 1
AAY71520
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Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    leukocyte antigen) class II-binding peptide. EphA3 antigens, when presented by an antigen presenting cell having a HLA class II molecule, effectively induce activation and proliferation of CD4+ T lymphocytes. EphA3 is a tumour associated gene. EphA3 HLA binding peptides are used for selectively enriching a population of T lymphocytes. The peptides are also used for diagnosing a disorder characterized by EphA3 or EphA3 HLA binding peptide expression. The peptides are also used to treat a disorder characterized by EphA3 expression. The EphA3 binding peptides are also used to treat a disorder characterized by EphA3 expression. The EphA3 binding peptides
                                                                                                                                                                                                                                                                               gp100 Pmel117; human; Tumour Rejection Antigen; TRA; tumour; cancer; HLA; Human Leucocyte Antigen; MHC; Major Histocompatibility Complex; CTL; cytolytic T-lymphocyte; immune response stimulator; prophylaxis; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel tyrosine kinase receptor, EphA3 human leukocyte antigen (HLA) class II binding peptide and nucleic acid encoding the receptor, useful for diagnosing and treating conditions characterized by expression of
                                                                                                                                                                                                                                                                 diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY71520 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB08668-B08704 represent antigenic peptides characteristic of tumours. The peptides may be combined in vaccines with a human EphA3 HLA (human
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EphA3 gene -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (LUDW-) LUDWIG INST CANCER RES
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08-OCT-1999;
WPI; 2000-412317/35
                                                                                                  27-NOV-1998;
                                                                                                                                 26-NOV-1999;
                                                                                                                                                                   08-JUN-2000
                                                                                                                                                                                                  WO200032769-A2
                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                  gp100 Pmell17; human;
                                                                                                                                                                                                                                                                                                                                                      Human
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                                                                                                                                                                                                                                                                                                                                                    gp100 Pmel117 nonapeptide-1
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page 35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; ilarity 100.0%; Conservative
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99US-0158566.
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                                 Brasseur
                                                                                                                                                                                                                                                                   necrosis factor;
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Pred. No. 3.4e+05;
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                                 Boon
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Novel polypeptides have an ability to

expressed in tumor cells useful for treating can complex with a major histocompatibility complex

cancers

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AAB02622
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Best Local S
Matches 9
The present invention relates to MAGE-A3 (tumour associated gene product) human leukocyte antigen (HLA) class II-binding peptides (s AAB02566-B02595, and AAB02633-B02637). These peptides are presented
                                                                                      Disclosure;
                                                                                                                           New MAGE-A3 class II binding peptides, useful tumours, are fragments of MAGE-A3 which bind lymphocytes by human leukocyte antigen class:
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                                                                                                                                                                                                                                                                                                     Chaux P,
                                                                                                                                                                                                                                                                                                                                               (LUDW-) LUDWIG INST CANCER RES (UYVR-) UNIV VRIJE BRUSSEL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancer;
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                                                                                                                                                                                                                                                                                   Schultz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAGE-A3;
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les 9; Conser
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                                                                                      Page 33;
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                                                                                                                                                                                                                                                                                   Van Snick J,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  II;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide antigen from
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                                                                                                                                                                                                                                                                                 J, Lethe B, Thielemans K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human leukocyte antigen; antibody; vaccine; tumour associated gene product.
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elemans K, Corthals
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RESULT
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Matches 9
The present invention describes isolated peptides which bind to human leukocyte antigen (HLA)-B35 molecules leading to recognition and lysis of the resulting complexes by cytolytic T cells. The isolated peptides are sometimes derived from tyrosinase. Compositions comprising the peptides of the invention can be used to generate immune responses, preferably in humans, but also in non-human animals to generated immune components which can then be used to treat humans or diagnostically. Therapeutically, the peptides are useful in generation of cytolytic T cells either in vitro or in vivo which specifically lyse pathogenic cells. The peptides can also be used to identify HLA-B35 positive cells, or to remove HLA-B25 positive cells from mixtures containing such cells. Nucleic acid molecules encoding the peptides can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cells in the context of HLA class II molecules. The peptides stimulate the activity and proliferation of CDA+ T lymphocytes. The invention also includes nucleotide sequences encoding MAGE-3A peptides (see AAA37928 and AAA37940). The peptides and nucleotide sequences can be used to create antibodies against the MAGE-A3 peptides, the antibodies, peptides and nucleotide sequences can be used to create a vaccine. The peptides are used to dispose or treat a disorder characterized by expression of MAGE-3, particularly cancer. The methods can also be used in the diagnosis of disorders associated with MAGE-3 expression. Included in the invention are other human tumour antigens (see AAB02596-00.2637), and PCR primers used in the course of the invention (see AAA37929-A37937 and AAA37941-A37942).
                                                                                                                                                                                                                                        Isolated peptides, sometimes derived HLA-B35 leading to recognition and ly cytolytic T cells -
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                A novel method of isolation of cytotoxic T-lymphocytes (CTL) clones comprises successive steps of stimulation and testing of lymphocytes with antigen presenting cells (APCs) which present antigens derived from different expression systems. The CTL clones isolated recognize specific antigenic peptides of proteins, preferably of the MAGE family. The APC is autologous and each expression systems is different from at least one of the other expression systems, therefore isolating a cytotoxic T cell clone specific for the protein. The method can also be used to identify an antigenic peptide epitope. Inclated CTL clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gp100-Pmel117 antigenic peptide epitope (residues 154-162).
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                                                                                                                                                                                                                                                                                                  Isolation of cytotoxic T-lymphocytes clones by successive steps stimulation and testing of lymphocytes with antigen presenting contains which present antigens derived from different expression systems
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                                                                                                                                                                                                                                                      Disclosure; Page 22; 99pp; English.
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09-APR-1999;
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STROOBANT V.
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BOON-FALLEUR T.
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arnier G;
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  Leukocyte antigen
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Pred. No.
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Mismatches
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Van Der Bruggen
  (HLA) complex
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ggen P;
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                        AAY84270-Y84303 represent peptides which are tumour associated antigens. They can be administered in conjunctin with the tumour rejection antigen precursor of the invention to induce anti-tumour reponses. The tumour rejection antigen precursor of the invention is encoded by an alternative open reading frame (ORF) of human macrophage colony stimulating gene. Peptides derived from the alternative ORF of macrophage-colony stimulating factor, when presented by an antigen presenting cell having a human leukoyte antigen (HLA) class I molecule, effectively induce the activation and proliferation of CDB+ cytotoxic T lymphocytes. Polypeptide and nucleic acids derived from the alternate ORF of macrophage-colony stimulating factor are useful for enriching selectively a population of T lymphocytes with CDB+ T lymphocytes. They are also useful for diagnosing a disorder characterized by expression of the polypeptide, and for identifying functional variants and mimetics.
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macrophage-colony
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9; Conser
                                                                                                                                                                                                                                                                                       polypeptide used to treat subjects having a disorder rized by expression of alternative open reading frame ge-colony stimulating factor comprises 25 amino acid
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                                        CC diagnosed or monitored by contacting a non-testis biological complex with an agent that binds to the complex and determining complex with an agent that binds to the complex and determining complex end determining the interaction. A disorder can also be treated by administering complex end HERV-AVI3-B gener that enriches the presence of HLA and HERV-AVI3-B ERTRA complex and the sequence of the HERV-AVI3-B gener to the HERV-AVI3-B coding sequence complex signal as probes or amplification primers for determining the compression of HERV-AVI3-B gener, to express tumor associated complypeptides in vivo and in vitro and to prepare fragments of such complypeptides to synthesize antibodies. Antigenic peptides of CC polypeptides to synthesize antibodies and/or cytotoxic T coding specificity of HLA molecules and/or cytotoxic T lymphocyte (CTL) for HERV-AVI3-B proteins. Peptides derived from the HERV-AVI3-B coding sequence and which are presented by MHC combined with peptides from other tumour rejection antigens by CC preparation of hybrid nucleic acids or polypeptides to produce corresponds to amino acids 154-162 of the gp100(Pmel117) polypeptide. CC See also AARS2953-YR32986.
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Sequence
                                                                                                                                                                                                                                                                                                                                                                                                    tumors, especially melanomas) can be treated or ameliorated by administering antisense nucleic acid to reduce the expression of tumour associated genes such as HERV-AVI3-B. Progression of a disorder characterized by the expression of the HERV-AVI3-B endogenous retrovirus tumor rejection antigen (ERTRA) can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY82979 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumor associated disorders (e.g. endogenous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel nucleic acids encoding melanoma associated gene products and their fragments and variants, useful for treating endogenous retrovirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tumors, especially melanomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boon-falleur
   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               probe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0124398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer; HLA; cytotoxic T-lymphocyte; cancer;
CTL; helper T-lymphocyte; MAGE; BAGE; GAGE; RAGE;
beta catenin; tyrosinase; Melan-A; gp100; PRAME.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              retrovirus mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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CC first and second binding partners (BPI, BP2); and (ii) several immune CC complexes (IC) containing a major histocompatibility complex (MFC) CC molecule (I), a beta2-microglobulin molecule (b2MG) and a peptide (II) CC that binds specifically to (I). (A) are used for analysis of cytolytic CC T cells (CTL) for characterisation of an immune response to tumours or CC for monitoring vaccine trials. Particularly they are used to isolate or CC to the particular CTL (especially those in tumour-infiltrated lymph CC nodes), including visualisation of antigen-specific CTL and determination CC if the cells have been activated by in vivo exposure to antigen. Isolated CC precursor cells may be expanded in vitro to produce cells with high CC tumouricidal activity, for therapeutic or diagnostic use. A method from CC the present invention allows: (i) preselection of T cell clones for use CC in immunotherapy according to their homing molecules; and (ii) improves CC the lytic activity of T cells populations by inhibition of natural CC killer cell receptors. The present sequence represents a peptide CC used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated complex of binding partners and immune complexes containing major histocompatibility molecules and peptide, used to isolate and detect cytotoxic T cells, particularly directed against
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-052636/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gp100-Pmel-117 gene MHC molecule HLA-A2 peptide SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY56614;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-OCT-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              major histocompatibility complex
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Romero P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (LUDW-) LUDWIG INST CANCER RES (UYOX-) UNIV OXFORD.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Melan-A; peripheral blood lymphocyte; PBL; immune complex; melanoma MHC molecule; beta2-microglobulin; cytotoxic T lymphocyte; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HLA-A*0201; human leukocyte antigen; cytolytic T cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KTWGQYWQV 9
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1 ktwgqywqv 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dunbar R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 64; 91pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Valmori D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tyrosinase; tumour rejection antigen,
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
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Matches
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Best Local
                                                                                                                       Matches
                                                                                                                                                                                                                  of MAGE-Al such as cancers e.g. melanomal, squamous cell carcinomas, colorectal carcinomas, osteosarcomas, and lymphocytic leukemias. Peptides derived from the MAGE-Al HLA binding protein are useful in
                                                                                                                                                                                                                                                                 of tumours. They can be used to enhance the immune response of vaccines comprising peptides derived from human MAGE-A1 HLA (human leukocyte antigen) class II-binding protein. Peptides derived from the MAGE-A1 HLA binding protein stimulate the activity and proliferation of CD4+ T lymphocytes. The MAGE-A1 HLA binding protein is useful as a diagnostic agent for diagnosing a disorder characterized by expression of MAGE-A1.
                                                                                                                                                                                                                                                                                                                                                                                        Novel MAGE-Al human leukocyte antigen class II peptides which bind to and are presented to the class II molecules, useful for inducing immune response and treating cancers characterized by expression of MAGE-Al -
                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAGE-A1; HLA; human leukocyte antigen; CD4+ T lymphocyte;
           AAR78643 standard; Protein;
                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Van Snick J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-JUN-1999;
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                                                                                                                                                                                                          production of anti-tumour vaccines
                                                                                                                                                                                                                                                         The protein is used for treating a disorder characterized by expression
                                                                                                                                                                                                                                                                                                                                          AAB31302-59 represent exemplary antigens which are characteristic
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                                                                                                                       Local Similarity
nes 9; Conserv
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                                                                                   1 KTWGQYWQV 9
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9; Conser
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                                                                                                                       Conservative
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                                                                                                                                  Score 59;
Pred. No.
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Pred. No. 3.4e+05;
Mismatches 0;
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                                                                                                                       Mismatches
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                                                                                                                       3.4e+05; thes 0;
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Best Local s
Matches 9
                                                                                                                                                                        gp100; melanoma antigen recognised by T-cells; MART; melanoma;
metastatic melanoma; tumour-associated antigen;
immunogenic peptide; diagnosis; prognosis; prophylaxis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       associated antigen can be cultured ex vivo and returned to particles, and when radiolabelled, they may be used to identument deposits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleotide sequences encoding the immunogenic peptides may as primers and probes in the detection of melanoma cells. Infiltrating lymphocytes capable of binding to the melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Melanoma; antigen;
                                                                                                  Synthetic
                                                                                                                                                 therapy; vaccine
                                                                                                                                                                                                                                                                           gp100 melanoma antigen immunogenic peptide (G10-154)
                                                                                                                                                                                                                                                                                                                                                                                                                               AAR84209 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5; Page 31; 40pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Melanoma associated antigen \operatorname{gp100} - \operatorname{used} in detection of tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAQ96055
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16-FEB-1994;
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                                                 WO9529193-A2
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                                                                                                                                                                                                                                                                                                                                                                                AAR84209
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94EP-0200337
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                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide; 10
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Pred. No. 0.0024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              from the melanoma associated antigen in the production of vaccines.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The immunogenic peptide is derived from cDNA25 (AAR84854), melanoma antigen derivative of gp100 (see AAR84855). The peptide and its derivatives (see AAR84200-R84211) are used
detection of tumours
         Melanoma
                            WPI; 1995-284790/38
N-PSDB; AAQ96055.
                                                                                                   21-DEC-1994;
16-FEB-1994;
                                                                                                                                                                           EP668350-A1.
                                                                                                                                                                                                                                                                                          AAR78642;
                                                                                                                                                                                                                                                                                                              AAR78642 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immunization) of melanoma. Antibodies against melanoma-specific antigens and its immunogenic peptides may be used in the detection and isolation of the antigen from a sample, the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding melanoma antigens recognised by T-lymphocytes - also vectors, host cells and antibodies, used to detect, treat and immunise animal against melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1995-382963/49
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-APR-1995;
22-APR-1994;
                                                           Adema
                                                                               (ALKU ) AKZO
                                                                                                                                  14-FEB-1995;
                                                                                                                                                       23-AUG-1995
                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                            Melanoma; antigen;
                                                                                                                                                                                                                                                Immunogenic peptide of melanoma associated antigen gp100
                                                                                                                                                                                                                                                                      22-JAN-1996
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                                                                                                                                                                                                                   identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide and its derivatives (see AAR84200-R84211) are used medicaments (vaccines) for the treatment or prevention (by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (melanoma
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        associated antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and isolation of the antigen from a sample, of which is indicative of a disease state
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or metastatic melanoma).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page 131; 184pp; English.
                                                          Figdor CG;
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94EP-0200337
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94US-0231565
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                                                                                                                                                                                                                   tumour;
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       gp100
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Matches 9; Conserv
                                                                                                response to a target molecule comprising an immunological adjuvant one or more peptides. The present sequence is one such peptide. The present peptides are similar to, but different from, a target peptide e.g. Gp100. Gp100 is a protein associated with melanoma. The present peptide in the production of antibodies against Gp100, and so can be can elicit the production of antibodies against Gp100, and so can be considered.
                                                                                                                                                                                                                New antigenic compositions for eliciting improved immune especially in overcoming tolerance to self-antigens - \,
                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunogenic peptides derived from the melanoma associated antigen (See AR78639-45) may be used in the production of vaccines. Nucleotide sequences encoding the immunogenic peptides may be used as primers and probes in the detection of melanoma cells. Tumour infiltrating lymphocytes capable of binding to the melanoma
                                                                Sequence
                                                                                                                                                               The present invention relates to a composition for eliciting an immune
                                                                                                                                                                                                                                                                              Bradwell
                                                                                                                                                                                                                                                                                                                                13-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                         GB2351905-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Unidentified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     associated antigen can be cultured ex vivo and particles, and when radiolabelled, they may be tumour deposits.
                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                        13-APR-2000;
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100.0%;
ilarity 100.0%;
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Pred. No.
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and so can be
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64.4	64.4				64.4									64.4	64.4
262	262	261	260	260	259	258	258	258	257	257	257	255	255	255	253
N	N	N	2	Ν	N	Ν	N	N	N	N	N	N	N	N	Ν
T50660	T02530	T07630	T47689	T08016	T50653	T48247	S53082	T09786	T50658	D84820	T02727	T50656	T50655	T06573	F84831
alpha-expansin 2 [	probable expansin	expansin 1 - tomat	expansin-like prot	probable expansin	expansin EXP6 [imp	expansin-like prot	pollen allergen ho	expansin - upland	expansin 9 [import		expan	_	expansin EXP5 [imp	expansin 18 - toma	probable expansin

## ALIGNMENTS

RESULT I38400

C;Date: 01-Nov-1996 \*sequence\_revision 01-Nov-1996 t C;Accession: I38400; A53668; A55753 R;Maresh, G.A.; Marken, J.S.; Neubauer, M.; Aruffo, DNA Cell Biol. 13, 87-95, 1994 A;Title: Cloning and expression of the gene for the A;Reference number: I38400; MUID:94235165

C; Species: Homo sapiens (man) N; Alternate names: melanoma antigen melanoma-associated ME20 antigen (me20m) -

01-Nov-1996 #text\_change 01-Dec-2000

for the Melanoma-Associated ME20 Antigen.

A.; Hellstrom, I.; Hellstrom, K.;

A; Molecule type: mRNA A; Residues: 1-662 < RES>

A;Status: preliminary; translated from GB/EMBL/DDBJ

A; Reference number: A; Accession: I38400

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A; Molecule type: mRNA
A; Residues: 1-592,594-662 < ADE>
A; Cross-references: GB:S73003; NID:g639589; PIDN:AAC60634.1; PID:g639590
A; Cross-references: GB:S73003; NID:g639589; PIDN:AAC60634.1; PID:g639590
R; Kawakami, Y.; Eliyahu, S.; Delgado, C.H.; Robbins, P.F.; Sakaguchi, K.;
Proc. Natl. Acad. Sci. U.S.A. 91, 6458-6462, 1994
A; Title: Identification of a Munan melanoma antigen recognized by tumor-ir
A; Reference number: A55753; MUID:94294401
A; Accession: A55753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross references: EMBL:U01874; NID:g494939; PIDN:AAA18479.1; PID:g494940 R;Adema, G.J.; de Boer, A.J.; Vogel, A.M.; Loenen, W.A.M.; Figdor, C.G. J. Biol. Chem. 269, 20126-20133, 1994 A;Biol. Chem. 269, 20126-20133, 1994 A;Reference characterization of the melanocyte lineage-specific antigen gp100. A;Reference number: A53668; MUID:94327568 A;Accession: A53668
C;Accession: A41234
R;Kwon, B.S.; Chintamaneni, C.; Kozak, C.A.; Copeland, N.G.; Gilbert, D.J.; Jenkins, Proc. Natl. Acad. Sci. U.S.A. 88, 9228-9232, 1991
                                                                                                                                                                                 RESULT
A41234
                                                                                           melanocyte-specific protein Pmel-17 precursor - human
C;Species: Homo sapiens (man)
C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 30-Sep-1993
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C; Keywords: glycoprotein
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A; Residues: 1-161, 'F', 163-592, 594-662 <KAW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: nucleic acid sequence not shown; not compared with conceptual translation
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Best Local
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                                                                                                                                                                                                                                                                                                    KTWGQYWQV 162
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9; Conserv
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A; Experimental:
C; Genetics:
A; Gene: Z3480
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                                                                                                                                                                                                                                                A;Title: Genome sequence of A;Reference number: A85480; A;Accession: H85861
                                                                                                                                                                                                                                                                                            R; Perna, N.T.; Plunkett I iller, L.; Grotbeck, E.J. Nature 409, 529-533, 2001
                                                                                                                                                                                                                                                                                                                                       C; Accession: H85861
                                                                                                                                                                                                                                                                                                                                                    hypothetical protein 23480 [imported] - Escherichia coli (strain 0157:H7) C;Species: Escherichia coli (c;Species: Escherichia coli (c;Species: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001 (c;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001 (c)
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R;Kwon, B.S.; Halaban, R.; Ponnazhagan, S.;
Nucleic Acids Res. 23, 154-158, 1995
A;Title: Mouse silver mutation is caused by
A;Reference number: $53871; MUID:95175358
A;Accession: $53871
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pmel 17 protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 27-Oct-1995 #sequence_revision
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S53871
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A;Accession: A41234
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-668 < KWO>
A;Cross-references: GB:M77348
                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-264 <STO>
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A; Residues: 1-626 <KWO>
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                                                                 Query Match
Best Local S
Matches 6
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Best Local S
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|154 KTWGQYWQV
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                                                                                Similarity
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8; Conservative
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88
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MUID:21074935; PMID:11206551
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                                                                                                                                                                                                                                                                                                          G.; Burland, V.; Mau
avis, N.W.; Lim, A.;
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                                                                 Score 45; DB; Pred. No. 6.7
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Pred. No.
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                                                                                              DB 2;
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A.; Dimalanta, E.;
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A; Map position: 4L

A; Map position: 4L

C; Superfamily: Saccharomyces protein-tyrosine-phosphatase, nonreceptor type 1;
C; Keywords: phosphoprotein; phosphoric monoester hydrolase; tyrosine-specific F; 52-303/Domain: protein-tyrosine-phosphatase homology <PTP>
F; 252/Active site: Cys (phosphocysteine intermediate) #status predicted
F; 258/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein-tyrosine-phosphatase (EC 3.1.3.48), nonrece N;Alternate names: protein D0815; protein YDL230w C;Species: Saccharomyces cerevisiae C;Date: 30-Dec-1991 #sequence_revision 08-Mar-1996 C;Accession: A39862; S67793 R;Guan, K.; Deschenes; R.J.; Qiu, H.; Dixon, J.E. J. Biol. Chem. 266, 12964-12970, 1991 A;Title: Cloning and expression of a yeast protein A;Reference number: A39862; MUID:91302312
                                                                                                                                                                                                                                                                                                  R; Blattner, F.R.; Plunkett I
.A.; Rose, D.J.; Mau, B.; Sh
Science 277, 1453-1462, 1997
                                                                                                        C; Superfamily:
                                                                                                                                                                                                                                                                                                                                                                hypothetical protein b2226 - Escherichia coli (strain K-12) c;Species: Escherichia coli (c;Species: Escherichia coli (c;Date: 17-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 04-Mar-2000 C;Accession: H64992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-335 <RAS>
A;Cross-references: EMBL:Z74278; NID:g1431387; PIDN:CAA98809.1; PID:g1431388;
A;Experimental source: strain S288C
C;Genetics:
                                                                                                                              A;Cross-references:
A;Experimental sourc
                                                                                                                                                                      A;Status: preliminary; nucleic acid sequence not shown; translation A;Molecule type: DNA A;Residues: 1-549 <BLAT>
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A39862
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                                                                                                                                                                                                                                                        A;Title: The complete genome sequence of Escherichia coli K-12
A;Reference number: A64720; MUID:97426617
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A;Cross-references: SGD:S0002389;
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Similarity 6; Conser
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                                                                                                                              nces: GB:AE000312; GB:U00096; NID:g1788555; PIDN:AAC75286.1; PID:g17885 source: strain K-12, substrain MG1655
                                                                                                          Escherichia
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76.3%; llarity 100.0%; Conservative
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66.7%;
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                                                                                                        coli hypothetical
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                   Score 45;
Pred. No.
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                      DB
13;
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                                          Length 549;
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C;Species: Escherichia coli
C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 16-Jul-1999
C;Accession: A35402; G65016; B35403
R;Sirko, A.; Hrynlewicz, M.; Hulanicka, D.; Boeck, A.
J. Bacteriol. 172, 3351-3357, 1990
A;Title: Sulfate and thiosulfate transport in Escherichia coli K-12: nucleo A;Reference number: A35402; MUID:90264334
A; Gene: cysU; cysT
A; Map position: 52 min
C; Superfamily: maltose transport protein malG
C; Keywords: binding protein-dependent transpor
                                                                                                                                                                                        C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000 C;Accession: S75029
                                                                                  C; Genetics:
                                                                                                      C; Comment: This is one
                                                                                                                       A; Molecule type: DNA
A; Residues: 1-126, 'F
                                                                                                                                                                                  A; Accession: B35403
                                                                                                                                                                                                                                                          A;Cross-references: GB:AE000330; GB:U00096; NID:g1788763; PIDN:AAC75477.1; PID:g1788764
A;Experimental source: strain K-12, substrain MG1655
R;Hryniewicz, M.; Sirko, A.; Palucha, A.; Boeck, A.; Hulanicka, D.
                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary; nucleic acid sequence
                                                                                                                                                                                                                                                                                                                                                                               Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12
A;Reference number: A64720; MUID:97426617
A;Accession: G65016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M32101; GB:M38050;
A;Experimental source: strain K12
R;Blattner, F.R.; Plunkett III, G.; Bloch,
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A; Residues: 1-209 <KAN>
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                                                                                                                                                          A; Status: preliminary; not compared with conceptual
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K.; Okumura, S.; Shimpo, S.;
A Res. 3, 109-136, 1996
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                                                                                                                         1-126, 'F', 128-133
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Shao, Y.
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    transport
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    membrane;
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Yamada, M.; Ya
    membrane
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A; Genome: chloroplast C; Superfamily: cytoch C; Keywords: chloropla:
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A; Title: Complete nucleotide sequence of the chloroplast genome A; Reference number: 215985; MUID: 97303241
A; Accession: T07314
                                                                                                                                                                                                                                                                                                                           cytochrome c-type synthesis protein homolog - Chlorella vulgaris chloroplast C;Species: chloroplast Chlorella vulgaris
C;Date: 14-May-1999 #sequence_revision 14-May-1999 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein cysU [imported] - Escherichia C;Species: Escherichia coli C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001
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C;Genetics:
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A; Residues: 1-315 <WAK>
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-281 <HEI>
A;Cross-references: GB:AF
A;Cross-references: GB:AF
A;Experimental source: se
C;Genetics:
A;Gene: VC2229
DNA Res.
A;Title:
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R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Nakamu
                                                                                        o, K.; Okumura, S.;
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A;Molecule type: DNA
A;Residues: 1-305 <NIE>
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A;Title: The primary structure of two chlorosome proteins A;Reference number: S43678; MUID:94192803
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A;Accession: A82104
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C; Date: 18-Aug-2000
C; Accession: A82104
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C; Superfamily: hyp
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Nature 406, 477-483, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conserved hypothetical protein
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                           Sequence
                                                         3, 109-136, 1996
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5; Conser
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                              analysis
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                                                                               S.; Kotani,
Shimpo, S.;
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                                                                                     Takeuchi,
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O1; strain N16961; biotype
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                           genome of
                                                                                  Tanaka, A.;
euchi, C.; Wa
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43;
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                                                                                  Asamizu,
Wada, T.; N
                           unicellular cyanobacterium Synechocysti
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                                                                                  Nakamura,
inabe, A.; Y
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                                                                                     Yamada,
                                                                               Y.; Miyajima, N.
Yamada, M.; Yasuda
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мJ0279
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A; Reference number: S743
A; Accession: S76446
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-400 < KAN>
                                                                                                                                                                         R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Pern A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia A;Reference number: A64720; MUID:97426617
A; Gene: ycdS
C; Superfamily:
                                                               A; Molecule type: DNA
A; Residues: 1-807 <STO>
A; Cross-references: GB:
                                                                                                                                                                                                                                                                                          RESULT
F85647
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                                 C; Genetics:
                                                                                                                              A; Reference number: A85480; A; Accession: F85647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ycdS protein precursor - Escherichia coli
C;Species: Escherichia coli
C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 04-Mar-2000
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                                              A; Experimental source:
                                                                                                             A;Status:
                                                                                                                                                          A; Title: Genome sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Gene: ycdS
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A;Experimental source: strain K-12, substrain MG1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Residues: 1-807 <BLAT>
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5; Conser
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                                              GB:AE005174; NID:g12514389; PIDN:AAG55642.1; GSPDB:GN00145; UWGP:
ce: strain 0157:H7, substrain EDL933
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MUID:21074935; PMID:11206551
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K.; Apoda
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fucoxanthin chlorophyll a/c-binding light-harvesting protein - Isochrysis g: N;Alternate names: FCP protein C;Species: Isochrysis galbana C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 05-Nov-1999 C;Accession: S46301
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S46301
RESULT
A72451
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A;Accession: A75530
A;Statue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cytochrome c-type biogenesis protein, heme exporter protein C - Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
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A; Molecule type: mRNA
A; Residues: 1-208 <LAR>
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C; Superfamily: he
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A; Residues: 1-236 <WHI>
A; Cross-references: GB;
                                                                                                                                                                                                                                                                                                                                                                                                         , M.; Shen, M.; Vamathevan, C.S.; Smith, H.O.; Venter, J.C. Science 286, 1571-1577, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                       R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
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Matches 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
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                                                                                                                                                                                                                                               DR0348
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                                                                                              2 TWGQYW 7
                                                                                                                                                                                                                                                                                                                                            preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TWGQYW
                                                                TWGTYW 106
                                                                                                                                Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and nucleotide sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                Conservative
                                                                                                                                                                                                              protein
                                                                                                                                                                                                                                                                            GB:AE001895;
ce: strain R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67.8%;
100.0%
                                                                                                                                             66.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66.1%;
83.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 39;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 40;
Pred. No.
                                                                                                                                            Score 39;
Pred. No.
                                                                                                                            ore 39; DB
ed. No. 48;
Mismatches
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42;
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1.1e+02;
hes 0;
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                                                                                                                                                                                                                                                                                                                                                                                          bacterium Deinococcus radiodurans
                                                                                                                                                             2;
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                                                                                                                                                             Length 236;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 208
                                                                                                                                                                                                                                                                                                                                                                                                                                         L.; Utterback,
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T.; Zalewski,
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                                                                                                                                                                                                                                                                                                                                                                                            R1
                                                                                                                                                                                                                                                                                                                                                                                                                                         R.J.;
C.; Ma
                                                                                                        expansin - upland cotton (fragment)
C;Species: Gossypium hirsutum (upland cotton)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999
           A;Title: Changes in levels of mRNAs A;Reference number: Z16889; MUID:977 A;Accession: T09871
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                                                              R;Shimizu, Y.; Aotsuka, S.; Hasegawa, O.; Kawada, T.; Plant Cell Physiol. 38, 375-378, 1997
                                                                                              C; Accession: T09871
                                                                                                                                                                T09871
                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                         C; Superfamily: hypothetical protein
                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 6
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268 KTWGKYQEV 276

KTWGQYWQV 9

Similarity 66.7 6; Conservative

66.1%; 66.7%;

Score 39; DB Pred. No. 1.5e 2; Mismatches

DB 2; 1.5e+02;

Length 794;

0;

Gaps

0

MG185

20

preliminary;

translated from GB/EMBL/DDBJ

of mRNAs for cell MUID:97294938

wall-related

enzymes

in

growing

cotton Hayashi, #text\_change 21-Jul-2000

Sakuno,

T.;

Sakai, F.;

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probable lactose transport system permease protein APE2253 - Aeropyrum pernix (strain C;Species: Aeropyrum pernix C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000 C;Accession: A72451
                                                                                                                                                R; Himmelreich, R.; Hilbert, H.; Plagens, H.; Pirkl, Nucleic Acids Res. 24, 4420-4449, 1994. A;Title: Complete sequence analysis of the genome of A;Reference number: S73327; MUID:97105885
                                                                                                                                                                                                                               C;Date: 26-Feb-1997 #sequence_revision 25-Apr-1997
C;Accession: S73328
                                                                                                                                                                                                                                                                   probable lipoprotein E07_orf794 - N;Alternate names: MG260 homolog E C;Species: Mycoplasma pneumoniae A;Variety: ATCC 29342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Gene: APE2253
C;Superfamily: inner membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A; Accession: A72451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA Res. 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aero
A; Genetic code: SGC3
                                    A; Cross-references: EMBL: AE0000001; GB:U00089; A; Note: the nucleotide sequence was submitted
                                                                          A; Molecule type: DNA
A; Residues: 1-794 <HIM>
                                                                                                            A; Status: preliminary; nucleic acid sequence
                                                                                                                                  A; Reference number: A; Accession: S73328
                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-276 <KAW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Kawarabayasi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                  Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                     19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KTWGQYWQV
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Takamiya, M.; Masuda, S.; Funahashi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DDBJ:AP000064; NID:g5105945; ce: strain K1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A72450;
                                  sequence
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                                                                                                                                                                                                                                                                                                         Mycoplasma
E07_orf794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 39;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ore 39; DB ed. No. 55; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yamazaki, S.;
i, T.; Tanaka,
                                                                                                              not shown;
                                                                                                                                                                                                                                                                                                                             pneumoniae
                                    NID:g1673645;
to the EMBL Da
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                                                                                                                                                                      of
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                                                                                                                                                                                                           E.; Li, B.C.; Herrmann,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 276
                                                                                                                                                                    the
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                                                                                                              translation not
                                                                                                                                                                                                                                                                                                                               (strain
                                                                                                                                                                    bacterium
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T.; Kudoh,
                                      Data
                                                      PIDN: AAB95650.1;
                                                                                                                                                                                                                                                                                                                               ATCC
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.; Yamazaki,
                                      November
                                  PID:g167
mber 1996
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                                                                                                                                                                    pneumon
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expansin (clone pPtexp2) - loblolly pine (fragment)
(;Species: Pinus taeda (loblolly pine)
(;Species: G-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 26-May-2000
C;Accession: T09818
R;Hutchison, K.W.; Singer, P.B.; Diaz-Sala, C.; Greenwood, M.S.
submitted to the EMBL Data Library, July 1996
A;Bescription: Expansins are conserved in conifers and expressed in response to exogenou A;Reference number: Z16866
A;Reference number: Z16866
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-232 < HUTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-160 <SHP.
A; Cross-references: EMBL:D88415; NID:g2244735; PIDN:BAA21109.1;
A; Experimental source: strain Coker312; fiber
C; Superfamily: expansin
 RESULT
                                                                                   ρy
                                                                                                                                                                                                       A;Cross-references: EMBL:U64891; NID:g1778100; PID:g1778101
A;Experimental source: clone pPtexp3
C;Superfamily: expansin
                                                                                                                                                                                                                                                                                                                                                    R;Hutchison, K.W.; Singer, P.B.; Diaz-Sala, C.; Greenwood, submitted to the EMBL Data Library, July 1996
A;Description: Expansins are conserved in conifers and expa
                                                                                                                                                                                                                                                                                                                                                                                                                       expansin (clone pPtexp3) - loblolly pine (fragment)
C;Species: Pinus taeda (loblolly pine)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 26-May-2000
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T09818
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A; Residues: 1-232 <HUT>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:U64890; NID:g1778098; PID:g1778099
A;Experimental source: clone pPtexp2; hypocotyl
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Best Local S
Matches 5
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Best Local S
Matches 5
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Best Local
                                                                                                                          Matches
                                                   182 RNWGQNWQ
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23
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                                                                                      1 KTWGQYWQ
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                                                                                                                      Similarity
5; Conserv
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5; Conser
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                                                                                                                          Conservative
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                                                                                                                      Score 38; DB Pred. No. 67; 1; Mismatches
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Pred. No. 67;
1; Mismatches
                                                                                                                      1;
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                                                                                                                                                                                                                                                                                                                                                        in conifers and expressed in
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                                                                                                                      0;
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                               C; Genetics:
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RESULT
T50654
                                                                              C;Accession: T50654
R;Shcherban, T.Y.; Shi, J.; Durachko, D.M.; Guiltine Proc. Natl. Acad. Sci. U.S.A. 92, 9245-9249, 1995
A;Title: Molecular cloning and sequence analysis of A;Reference number: Z14894; MUID:96016146
A;Accession: T50654
                                                                                                                                                                                                       expansin EXP1 [imported] - Arabidopsis thaliana (fragment) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_c
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c;Species: Pinus taeda (loblolly pine)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 26-May-2000
C;Accession: T09826
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T09826
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A;Description: Expansins are conserved in conifers and expresse A;Reference number: Z16866
A;Accession: T09825
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c;Species: Pinus taeda (loblolly pine)
c;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 26-May-2000
C;Accession: T09825
                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
"hehes 5; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Experimental source: clone pPtexp5 C; Superfamily: expansin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Hutchison, K.W.; Singer, P.B.; Diaz-Sala, C.; Greenwood, M.S. submitted to the EMBL Data Library, July 1996
A;Description: EXPANSIANS are conserved in conifers and expresse A;Reference number: Z16866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
A; Cross-references:
                   A; Molecule type: mRNA
A; Residues: 1-237 <SHC>
                                                           A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Superfamily: expansin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-332 GHUT>
A;Cross-references: EMBL:U64892; NID:g1778102; PID:g1778103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:U64893; NID:g1778104; PID:g1778105
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                              182 RNWGQNWQ 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182 RNWGQNWQ 189
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EMBL: U30476; PIDN: AAB38070.1
                                                                                                                                          J.; Durachko, D.M.; Guiltinan,
J.S.A. 92, 9245-9249, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64.4%;
62.5%;
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62.5%;
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.
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No.
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67;
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67;
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                                                                                                                                                                    M.J.; McQueen-Mason,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       expressed
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EXP1

extension (creep) in plant cell walls

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197 RNWGQNWQ

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A; Description: induces of C; Superfamily: expansin C; Keywords: cell wall
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                                                                                                                                        A; Map position: 2
C; Superfamily: expansin
                                                                                                                                                                                                                                                                                         A;Title: Sequence and analysis of chromosome 2 of A;Reference number: A84420; MUID:20083487 A;Accession: C84444
                                                                                                                                                                                                                                                                                                                                             R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; Vanhken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, 3. Nature 402, 761-768, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                 probable expansin [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 16-Feb-2001
C;Accession: C84444
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C;Superfamily: expansin
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Plant Cell 9, 1661-1671, 1997
Plant Cell 9, 1661-1671, 1997
A;Ttle: Expression of expansin genes is correlated
A;Reference number: 215042; MUID:97480100
A;Accession: T04175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Oryza sativa (rice)
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change
C;Accession: T04175
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                                                                                                                                                                                  A; Gene: At2g03090
                                                                                                                                                                                                    C; Genetics
                                                                                                                                                                                                                     A; Cross-references:
                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-248 <STO>
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A;Experimental source: cv. Pin Gaew 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-246 <CHO>
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                                                                                                                                                                                                                                                                            A;Status:
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Best Local S
Matches 5
                                                                         Query Match
Best Local
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Best Local
                                                          Matches
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   1 KTWGQYWQ
                                                                                                                                                                                                                                                                        preliminary
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                                                        Similarity
5; Conser
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                                                          Conservative
                                                                                                                                                                                                                     GB:AE002093;
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                                                                         64.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64.4%;
                                                      Pred. No. 71;
1; Mismatches
                                                                                                                                                                                                                   NID: 93461833; PIDN: AAC32927.1; GSPDB: GN00139
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Pred.
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68;
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                                                                                          Length 248;
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                                                        Indels
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                                                      Gaps
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                                                        0
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probable expansin [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001
                                                          F84831
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expansin 2 - rice
C;Species: Oryza sativa (rice)
C;Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 21-Jul-2000
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A;Description: mediates cell wall exten
C;Superfamily: expansin
F;1-23/Domain: signal sequence #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Shcherban, T.Y.; Shi, J.; Durachko, D.M.; Guiltinan, M.J.; McQueen-Mason, S.J.; Shi proc. Natl. Acad. Sci. U.S.A. 92, 9245-9249, 1995
A;Title: Molecular cloning and sequence analysis of expansins—a highly conserved, mu A;Reference number: Z14894; MUID:96016146
A;Accession: T10079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        expansin S1 precursor - C; Species: Cucumis sativ
                                                                                                                                                                                                                                                                                                                                                                                                          R;Shcherban, T.Y.; Shi, J.; Durachko, D.M.; Guiltinan, M.J.; McQueen-Mason, S.J.; Proc. Natl. Acad. Sci. U.S.A. 92, 9245-9249, 1995
A;Title: Molecular cloning and sequence analysis of expansins--a highly conserved, A;Reference number: Z14894; MUID:96016146
A;Recession: T03298
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Experimental source: cultivar Burpee Pickler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 21-Jul-2000 C;Accession: T10079
RESULT
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                                                                                                                                                                                                                                               A;Description: induces of C;Superfamily: expansin
                                                                                                                                                                                                                                                                                          C; Function:
                                                                                                                                                                                                                                                                                                             A; Gene: EXP2
                                                                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-251 <SHC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: T03298
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A; Residues: 1-250 <SHC>
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                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local
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                                                            201 RNWGQNWQ
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30
                                                                                                     1 KTWGQYWQ
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5; Conser
                                                                                                                                                                                                                                                                  induces extension (creep) in
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                                                            208
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62.5%;
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62.5%;
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                                                                                                                                                                                                                                                                                                                                                  NID:g1041709; PIDN:AAB38074.1; PID:g1041710
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                                                                                                                                                             Score 38;
Pred. No.
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Pred. No.
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Mismatches
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                                                                                                                                                             DВ
72;
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                                                                                                                                                                                  2;
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#text\_change 16-Feb-2001

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Post-processing:
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DB seq length: 2000000000
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1: /cgn2_6/ptodata/2/
2: /cgn2_6/ptodata/2/
3: /cgn2_6/ptodata/2/
4: /cgn2_6/ptodata/2/
5: /cgn2_6/ptodata/2/
6: /cgn2_6/ptodata/2/
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Maximum Match 100%
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/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/BCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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  US-08-787-547-61
US-08-417-174-46
US-08-90-516-29
US-09-036-582-26
US-08-417-174-47
US-08-417-174-27
US-09-037-961-27
US-09-07-961-27
US-09-07-961-27
US-08-417-174-71
US-08-417-174-72
US-08-417-174-73
US-08-417-174-74
US-08-417-174-75
US-08-417-174-76
US-08-417-174-79
US-08-417-174-80
US-08-417-174-80
US-08-417-174-81
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US-08-417-174-81
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US-08-417-174-82
US-08-417-174-85
US-08-417-174-81
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27, Appl
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72, Appl
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US-08-787-547-61
Query Match
Best Local Similarity
Matches 9; Conserv
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Result

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US-08-390-156A-40 US-08-390-156A-43 US-08-439-817-65 US-08-439-817-71 US-08-485-508-85 US-08-485-508-91 US-08-486-036A-6 PCT-US96-09848-6 US-08-845-539-6 US-08-845-539-5 US-08-845-539-5 US-08-845-539-5

Title:

on

## ALIGNMENTS

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; MOLECULE TYPE: peptide US-08-787-547-61
                                                                                                                                                                                                                                   APPLICANT: Hedley, Mary Lynne APPLICANT: Curley, Joanne M. APPLICANT: Langer, Robert S. TITLE OF INVENTION: MICROPARTI TITLE OF INVENTION: OF NUCLEIC NUMBER OF SEQUENCES: 107 CORRESPONDENCE ADDRESS:
                                                                                        INFORMATION FOR SEQ ID NO:
                                                                                                           REFERENCE/DOCKET NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-542-8906
TELEPA: 617-542-8906
TELEX- 2007 F.
                                          SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
TYPE: amino acid
                                                                                                                                                                              FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                            TELEFAX: of 200154
                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: US
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Fish & Richardson, P.C. STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION:
                                         amino acid
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                               linear
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OF NUCLEIC ACID
                                                                                                                                                                   08191/003001
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Score 59; DB 1; Length 9; Pred. No. 1.4e+05; Mismatches 0; Indels

0;

Gaps

0;

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KTWGQYWQV 9
KTWGQYWQV 9

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RESULT 3
US-08-902-516-29
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Best Local Similarity
""" 19; Conserve
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                                                                                                                                                   GENERAL INFORMATION: APPLICANT: SOO HO
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INFORMATION FOR SEQ ID NO: 46:
APPLICANT: SOO HOO, I
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/O
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
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MEDIUM TYPE: FLOPPY DISK
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TITLE OF INVENTION: METHODS
NUMBER OF SEQUENCES: 126
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
STREET: 345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
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STRANDEDNESS: Unl
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   MEMBRANE-BOUND CYTOKINE COMPOSITIONS
COMPRISING GM-CSF AND METHODS OF MODULATING AN IMMUNE
RESPONSE USING SAME
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                                                                                                                                                       William
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Pred. No. 1.4e+05;
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RESULT 5
US-08-417-174-47
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Best Local Similarity
"hes 9; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-036-582-26
                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 39
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 26, Application US/09036582A Patent No. 5965381
                                                                                                                                     Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: van der Bruggen, Pierre
APPLICANT: Cornelis, Guy R.
TITLE OF INVENTION: DELIVERY OF PROTEINS INTO EUKARYOTIC CELLS
TITLE OF INVENTION: WITH RECOMBINANT YERSINIA
FILE REFERENCE: 11154
                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/036,582A CURRENT FILING DATE: 1998-03-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (619)535-8949
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                             LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (619)535-9001
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: CAMPBELL & FLORES, LLP
STREET: 4370 La Jolla Village Drive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE: 29-JUI CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 4370 La Jolla CITY: San Diego
STATE: California
COUNTRY: United States
                                                                  1 KTWGQYWQV 9
                                                                                    1 KTWGQYWQV 9
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                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                       100.0%; Score 59; DB 2; 100.0%; Pred. No. 1.4e+05;
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Pred. No. 1.4
0; Mismatches
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                                                                                                                                                                       Length 9;
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                                                                                                                                                                                                          Sequence 121, Application US/08417174 Patent No. 5844075
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Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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Patent No. 584407
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                     CORRESPONDENCE ADDRESS:
                                                                                                    TITLE OF INVENTION: MELANOMA ANTIGENS AND THERAPEUTIC TITLE OF INVENTION: METHODS
                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FITLE OF INVENTION:
                                                                                       NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: Unk
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
ZIP: 10154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 345 PARK AVENUE
CITY: NEW YORK
STATE: NEW YORK
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NEW YORK
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                                   345 PARK AVENUE
                                                                                                                                                      KAWAKAMI, YUTAKA; ROSENBERG, STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STEVEN A.
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SYSTEM: PC-DOS/MS-DOS
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                                                  MORGAN & FINNEGAN, L.L.P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
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; STRANDEDNESS:
; TOPOLOGY: Unk:
; MOLECULE TYPE:
US-08-417-174-121
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Best Local Similarity
'---hes 9; Conserv
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FILING DATE: 05-APR-15
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 22-APR-15
                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                        APPLICATION NUMBER: UFILING DATE: 01-JUN-1
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                 APPLICATION NUMBER: 07/3 FILING DATE: 07-JUN-1989 ATTORNEY/AGENT INFORMATION:
                                                                  APPLICATION NUMBER: 06/915,753
FILING DATE: 06-OCT-1986
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: KWON, BYOUNG SE
TITLE OF INVENTION: CDNA CLONES FOR HUMAN TYROSINASE AND FOR
TITLE OF INVENTION: A REGULATORY PROTEIN IN THE MELANIN PROT!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: FLOPPY DISK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
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TELEFAX: \-
TEX: 421792
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CITY: Ithaca
STATE: NY
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                      306 East State Street; Suite 220
                                                                                                                                                                                                                                                                                                                                USA
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(212) 751-6849
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                                                                                                                                                                                                                                                                                                                                                                                                       Christopher A. Michaels, Barnard, Brown Michaels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-APR-1994
                                                                                                                                                              01-JUN-1992
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05-APR-1995
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Christopher A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 59; DB 2; Length 661; 100.0%; Pred. No. 0.097;
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                                                   07/362,847
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                                                                                                                                                                                                                     Version #1.30
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REGISTRATION NUMBER:

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US-08-417-174-27

; Sequence 27, Application US/08417174
; Patent No. 5844075
; GENERAL INFORMATION:
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Best Local :
                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: MELTITLE OF INVENTION: THE TITLE OF INVENTION: METITITLE OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 6:
APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: IN TELECOMMUNICATION INFORMATION: 607-273-1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WOLECULE TYPE: protein PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       154 KTWGQYWQV 162
                                                                                                                                                                                          COUNTRY: US
ZIP: 10154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
mes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                              STREET:
                                                                                                                                                                                                                                                                        ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENGTH:
                                                                                                                                                                                                                                            NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           October-1991
                                                                                                                                                                                                        NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A melanocyte-specific gene, Pmel 17, maps near the silver coat color locus on mouse chromosome 10 and is in a syntenic region on human chromosome 12 .: Proc. Natl. Acad. Sci. U.S.A.
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                                                                                                                                                                                                                                                            345 PARK AVENUE
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Gilbert, Debra J
Jenkins, Nancy
Barton, David
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Kozak, Christine A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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Kim, Kack K
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                                                                                                                                                                                                                                                                                                            METHODS
: 126
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100.0%; Pred. No. 0.098;
tive 0; Mismatches
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; STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Protein
US-08-417-174-27
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Best Local Similarity
"---hes 8; Conserv?
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                                                                                                                   APPLICATION NUMBER: US/08/231
PILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY_AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                          INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                            SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
TOPOLOGY: UI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          154 KTWGQYWQ 161
                          STRANDEDNESS:
                                               TYPE:
                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
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                                                          LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27, Application US/08231565A
5. 5874560
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                                          amino acid
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Conservative 0: Micro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                        USA
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                             Unknown
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
METHODS
                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
                                                                                                                                                                                                                                                               US/08/231,565A
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0.39;
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; TOPOLOGY: UI
; MOLECULE TYPE:
US-09-007-961-27
                                                               RESULT 11
US-08-417-174-71
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Best Local Similarity
Conservat
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; Sequence 27, Application US/09007961
; Patent No. 5994523
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Best Local Similarity
""+"hes 8; Conserve
                                     Sequence 71, Application US/08417174 Patent No. 5844075
GENERAL INFORMATION:
APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/231,56
FILING DATE: 22-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2266
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                       TELEFAX: (212) 751-68-
TELEX: 421792
INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: FLOPPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
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TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                154 KTWGQYWQ 161
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                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: Un)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: NEW YORK
STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                              (212) 751-6849
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                                                                                                                                                                   Conservative
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IBM PC COMPATIBLE
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                         Unknown
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                                                                                                                                                                             93.2%;
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              YUTAKA; ROSENBERG
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                                                                                                                                                                               Score 55; pred. No.
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0.39;
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                        Patent No. 5844075
GENERAL INFORMATION:
                                                                                                                                                                                                                                            Sequence
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TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC-D
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                          APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS AND
TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/417,174 FILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
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TITLE OF INVENTION:
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ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
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ZIP:
                                STATE:
                                                             STREET:
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           COUNTRY:
                                                                              ADDRESSEE:
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NO. 5844075
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                                               T: 345 PARK AVENUE
NEW YORK
10154
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                              NEW YORK
                                                                                                                                                                                                                                          Application US/08417174
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               USA
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(212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                          91.5%; Score 54; DB ilarity 100.0%; Pred. No. 1. Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
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                                                                            MORGAN & FINNEGAN, L.L.P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
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COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK

COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-SOFTWARE: ASCII

PC-DOS/MS-DOS

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US-08-417-174-73
; Sequence 73, Application US/08417174
; Patent No. 5844075
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Best Local Similarity 100.
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ZIP: 10154
ZIP: 10154
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
MEDIUM TYPE: IBM PC COMPATIBLE
""""""," PC-DOS/MS-DOS
     INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
                                                              REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
ATTORNEY AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
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FILING DATE: 05-AFR
PRIOR APPLICATION NUMBER: US/08/231,565
APPLICATION NUMBER: US/08/231,565
                                                                                                                                                          APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
TELEFAX: (212) 751-6849
                                                                                                          CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                       SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 126
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
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TITLE OF INVENTION:
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           TELEFAX: (221792
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STRANDEDNESS: Unk
TOPOLOGY: Unknown
                                             TELEPHONE:
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FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                             345 PARK AVENUE
                                 (212) 751-6849
                                                 (212) 758-4800
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100.0%; Pr
100.0%; Pr
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b; Pred. No. 1.4
0; Mismatches
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                 Query Match
Best Local Similarity
Thes 8; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 74, Patent No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 91.5%; Score 54; DB 2; Best Local Similarity 100.0%; Pred. No. 1.4e+ Matches 8; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/O FILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 5-1
STREET: NEW YORK
CITY: NEW YORK
"TATE: NEW YORK
                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION: NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/0
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM:
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: Unknown
                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
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 2 TWGQYWQV 9
                                                                                                                                                                                 ENGTH:
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                                                                                                                                                                 amino acid
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345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KAWAKAMI, YUTAKA; ROSENBERG, STEVEN A.
                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IBM PC COMPATIBLE
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                                                                                                                                                    Unknown
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                                            91.5%;
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                      37,341
                                            Score 54; DB 2;
Pred. No. 1.4e+(
                                                                                                                                                                                                                                                                                           2026-4124US1
                                             1.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                   Sequence 68, Application US/08417174
Patent No. 5844075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
ETILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
ETILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 421792
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: MELANOMA ANTIGENS AND THERAPEUTIC TITLE OF INVENTION: METHODS
                                                       APPLICANT: KAWAKAMI, YUTAKA; ROSENBEKG,
APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS AND
TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
STREET: 345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: Unknown
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                               91.5%; Score 54; DB 2;
nilarity 100.0%; Pred. No. 1.4e+05
Conservative 0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KAWAKAMI, YUTAKA; ROSENBERG
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Best Local Similarity
Matches 8; Conserv
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                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (212) 751-68
TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                             APPLICANT: KAWAKAMI
APPLICANT: STEVEN A
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
COMPUTER: LBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
          APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                              SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                   FITLE OF INVENTION:
                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
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STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS: Unkr
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                 STATE:
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CLASSIFICATION:
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CAROL M. GRUPPI
70
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345 PARK AVENUE
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                                                                                                                                                                                                                                                                                                                                        KAWAKAMI, YUTAKA; ROSENBERG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
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                                                                                                                                                                                                                                                                                    METHODS
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THERAPEUTIC
                                                                                                                                                                                                                                                                       126
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Pred. No. 1.4e+05;
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                          Seg No 68
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wo/05/29193
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; MOLECULE TYPE: US-08-417-174-70
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US-08-417-174-70
; Sequence 70, Application US/08417174
; Patent No. 5844075
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; STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-08-417-174-69
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                             TELEFAX: (212) 751-684
TELEX: 421792
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEX: 421792
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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NAME: CAROL M. GRUPPI
REGISTRATION UNMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPHONE: (212) 751-6849
                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026-4124US1
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/417,174 FILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOETWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
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CORRESPONDENCE ADDRESS:
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                             STRANDEDNESS:
TOPOLOGY: Un
                                                                                                                                      TELEPHONE: (212) 751-6849
                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
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                                                                                    LENGTH:
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                                                                 amino acid
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                                 Unknown
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                                             Unknown
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; TYPE: amino acid
; STRANDEDNESS: Unkn
; TOPOLOGY: Unknown
; MOLECULE TYPE: Pepti
US-08-417-174-76
                                              RESULT 20
US-08-417-174-77
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Best Local Similarity
Thes 8; Conserve
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             Sequence 77, Application US/08417174
Patent No. 5844075
                                                                                                                                                                                                                                                                                                                                                                           NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
TELEX: 421792
INFORMATION FOR SEQ ID NO: 76:
                                                                                                                                                                                                Query Match
Best Local (
                                                                                                                                                                                  Matches
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GENERAL INFORMATION:
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: MELTITLE OF INVENTION: THE TITLE OF INVENTION: METTING OF SEQUENCES: 12 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWAKE: CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: US/08/417,174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: KAWAKAMI, APPLICANT: STEVEN A.
                                                                                                                                                                                  Local Similarity hes 8; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 345 PARK AVENUE CITY: NEW YORK
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| KTYGQYWQV 9
                                                                                                                                                1 KTWGQYWQV 9
                                                                                                                                                                                                                                                                                                                                                  ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
ZIP: 10154
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5844075
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                                                                                                                                                                                                                                                                                                              Unknown
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    Mismatches

                                                                                                                                                                                              Score 50; DB 2;
Pred. No. 1.4e+05;
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Pred. No. 1.4e+05;
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    Indels

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; TYPE: amino acid
; STRANDEDNESS: Unkn
; TOPOLOGY: Unknown
; MOLECULE TYPE: Pepti
US-08-417-174-77
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Best Local Similarity
                                                                                                                                                                                                                                                                 Patent No.
                                                                                                                                                                                                                                                                            Sequence 78,
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,174
FILING DATE: O5-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
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ADDRESSEE: MORGAN & FINNEGAN, L.L.P
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NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
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              COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                      TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                  APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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STATE: NEW YORK
                                                                        STATE: NEW YORK
                                                                                                         STREET:
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                                                        COUNTRY:
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 COMPUTER:
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5844075
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                                                           USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown
IBM PC COMPATIBLE
                                                                                                                       MORGAN & FINNEGAN, L.L.P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown
                                                                                                                                                                     MELANOMA ANTIGENS AND THERAPEUTIC THEIR USE IN DIAGNOSTIC AND THERAPEUTIC METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                   83.1%;
88.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 49; DB 2;
Pred. No. 1.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
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Patent No. 584**.
Patent No. 584**
Patent No. 584**
Pawaki
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Best Local Similarity
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                    APPLICATION NUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                           COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: FLOPPY
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NAME: CAROL M. GRUPPI
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PRIOR APPLICATION UNMBER: US/08/231,565
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CURRENT APPLICATION DATA:
                                                                  ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                     APPLICATION NUMBER: US/08/231,565 FILING DATE: 22-APR-1994 CLASSIFICATION: 435
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STRANDEDNESS: Unl
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                                   REFERENCE/DOCKET NUMBER:
                                                 REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                        CITY: NEW YORK
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100.0%; Pred. No. 1.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               METHODS
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                                   2026-4124US1
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Gaps

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; TYPE: amino acid
; STRANDEDNESS: Unkn
; TOPOLOGY: Unknown
; MOLECULE TYPE: Pepti
US-08-417-174-80
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Best Local Similarity
""" Conserve
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STRANDEDMESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-08-417-174-79
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                          Query Match
Best Local Similarity
Matches 7; Conserv
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                   REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/417,174
FILING DATE: US-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
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MEDIUM TYPE: FLOPPY DISK
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ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: METHODS
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                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
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 3 WGQYWQV 9
                                                                                                                                                                   LENGTH:
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                           Conservative
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                                                                                                                                                                                                                         (212) 751-6849
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                                                                                                                          Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KAWAKAMI, YUTAKA; ROSENBERG,
                                                                                                                                                                                                                                         (212) 758-4800
                                                                                                           Peptide
                                                                                                                                      Unknown
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                        83.1%; Score 49;
100.0%; Pred. No.
Live 0; Mismatc
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
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Pred. No.
                             Mismatches
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                     DB 2; L., 3. 1.4e+05; 0;
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1.4e+05;
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                          Indels
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RESULT 25
US-08-417-174-82
Sequence 82, Application US/08417174
Patent No. 5844075
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Patent No. 5
                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                  Query Match
Best Local
                                       GENERAL INFORMATION:
APPLICANT: KAWAKAMI,
APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                               TELEX: 421792
INFORMATION FOR SEQ ID NO:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: PC-D
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/01 FILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: FLOPPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                 Local Similarity hes 7; Conserv
                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: Unk
TOPOLOGY: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/0 FILING DATE: 22-APR-1994 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 37 REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                   Conservative
                                                        KAWAKAMI, YUTAKA; ROSENBERG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KAWAKAMI, YUTAKA; ROSENBERG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IBM PC COMPATIBLE SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                       Unknown
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100.0%;
             MELANOMA ANTIGENS AND THEIR USE IN DIAGNOSTIC
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
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                                                                                                                                                                                                                                                    Score 49; 
; Pred. No.
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             AND THERAPEUTIC
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SOFTWARE: ASCII

COUNTRY:

USA

NEW YORK

10154

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Query Match
Best Local Similarity 100.
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INFORMATION FOR SEQ ID NO:
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REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: FLOPPY
                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                          APPLICANT: Ruhland-Fritsch, Beatrice
TITLE OF INVENTION: Peptides and Comp
TITLE OF INVENTION: Selectins Includi
TITLE OF INVENTION: Molecule I (ELAM-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
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NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08 FILING DATE: 05-APR-1995 PRIOR APPLICATION DATA:
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STREET: 345 PARK AVENUE
CITY: NEW YORK
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OPERATING SYSTEM: PC-DOS/MS-DOS
                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                 ADDRESSEE: Affymax Technologies, NV
                                                                                                                                                                                                                  T: 4001 Miranda Ave. Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08439817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Koller, Kerry J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cwirla, Steven E. Dower, William J.
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PatentIn Release #1.0, Version #1.25
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100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Christine L.
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Best Local Similarity
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US-08-241-054-85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TOPOLOGY: 1:
; MOLECULE TYPE:
US-08-439-817-205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPAX: 415-424-0832
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 85, Application US/08241054 Patent No. 5643873
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: ITITLE OF INVENTION: ITITLE OF INVENTION: ITITLE OF SEQUENCES:
                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/241,054
FILING DATE: 11-MAY-1994
CIRCUTERITY STATE STATE
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APPLICANT:
APPLICANT:
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ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US 07/881,395
                         CLASSIFICATION: 530 PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                CITY: Alexandria
STATE: Virginia
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REFERENCE/DOCKET NUMBER: 000324-046/1056.1
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                                                                                                                                                                                                                                                                                                                       COUNTRY:
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                     699 Prince Street
                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ruhland-Fritsch, Beatrice
VENTION: Peptides and Compounds That Bind
VENTION: Selectins Including Endothelium Leukocyte Adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cwirla, Steven E. Dower, William J.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Koller,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Barrett,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lee, Jung
Martens, Christine L.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kerry J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64.48;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ronald W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169
US 08/057,295
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Pred. No. 2.
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Length 12; Indels

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Gaps

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RESULT 26 US-08-439-817-205

Sequence

205

572880

tent No.

GENERAL INFORMATION:

Barrett,

APPLICANT:

NUMBER OF SEQUENCES:

STREET:

COUNTRY: UZIP: 94304

California

USA

APPLICANT:

APPLICANT:

밁 ð

; MOLECULE TYPE: US-08-417-174-82

TYPE: amino acid STRANDEDNESS: Unkr TOPOLOGY: Unknown

FILING DATE: 05-MAY-PRIOR APPLICATION NUMBER:

05-MAY-1993

ATTORNEY/AGENT INFORMATION:

FILING DATE:

06-MAY-1992

US 07/881,395

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; STRANDEDNESS:
; TOPOLOGY: line
; MOLECULE TYPE: I
US-08-241-054-85
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Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
           APPLICATION NUMBER: US 07/881,395
FILING DATE: 06-MAY-1192
ATTORNEY/AGENT INFORMATION:
NAME: Gerald F. Swiss
REGISTRATION NUMBER: 30,113
REFERENCE/DOCKET NUMBER: 000324-0
                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-WAY-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                SOFTWARE: PatentIn Rel
                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-854-7400
                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                        FITLE OF INVENTION:
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                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                          CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                           STREET:
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                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : 20 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerald F. Swiss
                                                                                                                                                                                                                                                                                                                                          Virginia
                                                                                                                                                                                                                                                                                                                                                                            699 Prince Street
                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ruhland-Fritsch, Beatrice
VENTION: Peptides and Compounds That Bind
VENTION: Selectins Including Endothelium Leukocyte Adhesion
VENTION: Molecule 1
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                                                                                                                                                                                   11-MAY-1994
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ens, Christine L.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ronald W.
                                                                                                                                                                                                                                                                                                                                                                                                                        169
                                                                                                                                                                                                 US/08/241,054
                                                                                                                                                                                                                               Release #1.0, Version #1.25
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             000324-002
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Best Local Similarity
Watches 5; Conserve
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Patent No. 5648458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                REFERENCE/DOCKET NUMBER: 10
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-496-2300
                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-MAY-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                             FILING DATE: 16-FEB-PRIOR APPLICATION DATA:
TOPOLOGY: 1
MOLECULE TYPE:
                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                         TYPE: amino acid
                                                                                                                                                           NAME: Swiss, Gerald F
REGISTRATION NUMBER:
                          STRANDEDNESS:
                                                                                                                                                                                                        APPLICATION NUMBER: US 07/881,395 FILING DATE: 06-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Palo Alto
STATE: California
                                                                                                    TELEFAX: 415-424-0832
                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                 94304
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Dower, William J.
            ss: single
linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Affymax Technologies, N.V.
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peptide
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16-FEB-1996
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                                                                                                                                                           30,113
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                                                                                                                                               1023.1A
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Pred. No.
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Query Match Best Local Similarity

64.4%; 62.5%;

Score 38; Pred. No.

DB 1; 4.3;

Length 20

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; LENGTH: 20 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-390-156A-43
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US-08-390-156A-43
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Search completed: July 3, 2001, 10:22:35 Job time: 1300 sec
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                                                                                                                             Query Match
Best Local Similarity 62...
"""" ches 5; Conservative
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                       TELEPHONE: 415-496-2300
TELEFAX: 415-424-0832
INFORMATION FOR SEQ ID NO: 43:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Cwirla, Steven E.
APPLICANT: Barrett, Ronald W.
APPLICANT: Dower, William J.
APPLICANT: Martens, Christine L.
TITLE OF INVENTION: Peptides and Compounds That Bind to
NUMBER OF SEQUENCES: 113
                                                                                                                                                                                                                                                                                                                                                                                         NAME: Swiss, Gerald F.
REGISTRATION NUMBER: 30,113
REFERENCE/DOCKET NUMBER: 1023.1A
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415.496-2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-WAY-1993
PRIOR APPLICATION DATA:
APPLICATION UNBER: US 07/881,395
FILING DATE: 06-WAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Cation Command
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/390,156A FILING DATE: 16-FEB-1996 PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Affymax Technologies, N.V. STREET: 4001 Miranda Ave. CITY: Palo Alto STATE: California
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ZIP: 94304
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                                                                                                                                                                      64.4%;
                                                                                                                                                      ; Score 38; DB 1; Pred. No. 4.3; 1; Mismatches
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